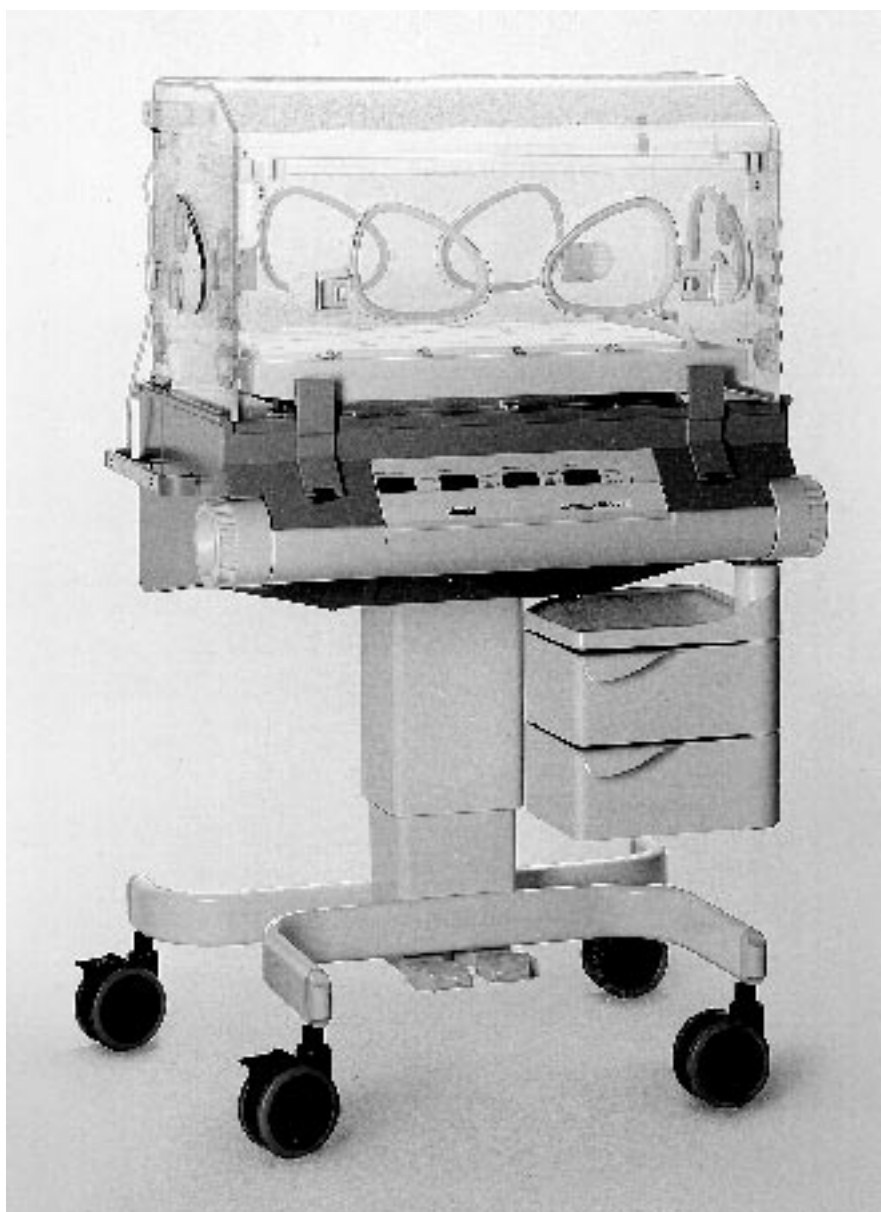


Incubator 8000 IC with ThermoMonitoring

Operating Instructions





NOTICE

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Introduction

Operator's Responsibility for Patient Safety

For correct and effective use of the product and in order to avoid hazards, it is mandatory to carefully read and to observe all portions of this manual.

The design of the equipment, the accompanying literature, and the labeling on the equipment take into consideration that the purchase and use of the equipment are restricted to trained professionals, and that certain inherent characteristics of the equipment are known to the trained operator. Instructions, warnings, and caution statements are limited, therefore, largely to the specifics of the Dräger design. This publication excludes references to various hazards which are obvious to a medical professional and operator of this equipment, to the consequences of product misuse, and to potentially adverse effects in patients with abnormal conditions. Product modification or misuse can be dangerous. Dräger, Inc. disclaims all liability for the consequences of product alterations or modifications, as well as for the consequences which might result from the combination of this product with other products whether supplied by Dräger or by other manufacturers if such a combination is not endorsed by Dräger, Inc..

The operators of the incubator system must recognize their responsibility for choosing appropriate safety monitoring that supplies adequate information on equipment performance and patient condition. Patient safety may be achieved through a wide variety of different means ranging from electronic surveillance of equipment performance and patient condition to simple, direct observation of clinical signs. The responsibility for the selection of the best level of patient monitoring lies solely with the equipment operator.

Limitation of Liability

Dräger, Inc.'s liability, whether arising out of or related to manufacture and sale of the goods, their installation, demonstration, sales representation, use, performance, or otherwise, including any liability based upon Dräger, Inc.'s Product Warranty, is subject to and limited to the exclusive terms and conditions as set forth, whether based upon breach of warranty or any other cause of action whatsoever, regardless of any fault attributable to Dräger, Inc. and regardless of the form of action (including, without limitation, breach of warranty, negligence, strict liability, or otherwise).

THE STATED EXPRESSED WARRANTIES ARE IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING, WITHOUT LIMITATION, WARRANTIES OF MERCHANTABILITY, FITNESS FOR ANY PARTICULAR PURPOSE, OR NONINFRINGEMENT.

Dräger, Inc. shall not be liable for, nor shall buyer be entitled to recover any special incidental, or consequential damages or for any liability incurred by buyer to any third party in any way arising out of or relating to the goods.

Warranty

All Dräger products are guaranteed to be free of defects for a period of one year from date of delivery.

The following are exceptions to this warranty:

1. The defect shall be a result of workmanship or material. Defects caused by misuse, mishandling, tampering, or by modifications not authorized by Dräger, Inc. or its representatives are not covered.
2. Rubber and plastic components and materials are warranted to be free of defects at time of delivery.
3. Oxygen sensors capsules have a warranty up to the expiration date printed on the sensor.

Any product which proves to be defective in workmanship or material will be replaced, credited, or repaired with Dräger, Inc. holding the option. Dräger, Inc. is not responsible for deterioration, wear, or abuse.

In any case, Dräger, Inc. will not be liable beyond the original selling price.

Application of this warranty is subject to the following conditions:

1. Dräger, Inc. or its authorized representative must be promptly notified, in writing, upon detection of the defective material or equipment.
2. Defective material or equipment must be returned, shipping prepaid, to Dräger or its authorized representative.
3. Examination by Dräger or its authorized representative must confirm that the defect is covered by the terms of this warranty.
4. Notification in writing, of defective material or equipment must be received by Dräger or its authorized representative no later than two (2) weeks following expiration of this warranty.

In order to assure complete protection under this warranty, the Customer Registration Card and/or Periodic Manufacturer's Service Record (if applicable) must be returned to Dräger within ten (10) days of receipt of the equipment.

The above is the sole warranty provided by Dräger, Inc. No other warranty expressed or implied is intended. Representatives of Dräger are not authorized to modify the terms of this warranty.

Dräger, Inc., Chantilly, VA

Definitions

WARNING !

A **WARNING** statement refers to conditions with a possibility of personal injury if disregarded.

CAUTION !

A **CAUTION** statement designates the possibility of damage to equipment if disregarded.

NOTE: A **NOTE** provides additional information intended to avoid inconveniences during operation.

Inspection = examination of measured condition

Service = measures to maintain specified condition

Repair = measures to restore specified condition

Maintenance = inspection, service, and repair, where necessary

Preventive Maintenance = Maintenance measures at regular intervals

Typing conventions in this manual

LED display messages are printed in **bold** type,
e.g: **SEt**

General WARNINGS and CAUTIONS

WARNING !

Strictly follow this Operator's Instruction Manual!

Any use of the product requires full understanding and strict observation of all portions of these instructions. The equipment is only to be used for the purpose specified under "Intended Use" (see page 12). Observe all WARNINGS and CAUTIONS as rendered throughout this manual and on labels on the equipment.

WARNING !

This device is to be used only in rooms with line power installations complying with national safety standards for hospital patient rooms. (e.g., IEC 601.1, "Safety of Medical Equipment).

To maintain grounding integrity, connect only to a "hospital grade" receptacle. Always disconnect supply before servicing.

WARNING !

DANGER, risk of explosion if used in the presence of flammable anesthetics.

This device is neither approved nor certified for use in areas where combustible or explosive gas mixtures are likely.

WARNING !

Keep space above the incubator clear of obstruction!

Nothing must be kept below the storage cabinets. Hoses, circuits, and cables must be long enough for the height of the incubator being adjusted. They must be routed in a way that no kinking, disconnection or squeezing can occur.

WARNING !

Do not use cellular or cordless phones within 33 feet (10 m) of the equipment.

Wireless phones may cause malfunction in electromedical equipment.

CAUTION !
Restriction of Distribution

Federal Law and Regulations in the United States and Canada restrict this device to sale by or on the order of a physician.

CAUTION !
Maintenance

In case of malfunction of this device, contact your local DrägerService or our Factory Authorized Technical Service Center.

The device must be inspected and serviced (preventive maintenance) by factory authorized technical service representatives at regular 2 year intervals. A record must be kept on this preventive maintenance. We recommend obtaining a service contract through your vendor.

Maintenance or repair of the Incubator 8000 IC shall be performed only by Dräger authorized technical service representatives.

Precautions During Preparation

Readiness for Operation

WARNING !

The incubator is ready for operation only when all checks have been performed successfully.

Load Limits for Storage Options

CAUTION !

Maximum load attached to rail must not exceed 25 kg (55 lbs).

Precautions During Operation

WARNING !

Never leave baby unattended when front door or hand ports are open to avoid any risk of a patient falling out of the incubator.

Temperature

WARNING !

Always check baby's core temperature at regular intervals!

WARNING !

Temperatures above 37 °C may only be used on the order of a physician.

In this mode of operation, the baby's temperature must be monitored especially carefully.

WARNING !

Additional external heat sources, such as sunlight, heat lamps, spot lamps, heated pads, etc. should be avoided. They increase air temperature inside the incubator in an uncontrolled fashion.

WARNING !

Do not cover phototherapy lights or incubator hood with blankets, aluminum foil, or other materials intended to boost the effect of phototherapy. This could result in a build-up of heat in the incubator. - Danger of overheating patient!

Skin Temperature Control

WARNING !

Skin temperature control must not be used with babies in shock. Because of reduced peripheral bloodflow the skin temperature of these babies occasionally lies below the core body temperature. Using a skin temperature control system could lead to overheating. We recommend operating the incubator in air temperature control mode when caring for patients with such conditions.

WARNING !

Always verify that single use sensor probe is specified and approved for use with Dräger Series 8000 incubators.

WARNING !

The sensor probe must never be placed under the baby. It would be measuring and attempting to control core temperature rather than skin temperature in this case.

WARNING !

A displaced or detached skin temperature sensor would be measuring air temperature so that the baby could become overheated (the temperature of the air in the incubator would, however, not exceed 39 °C).

WARNING !

Do not use skin temperature sensors to rectally measure core temperature.

Fire hazards associated with the use of oxygen

WARNING !**Fire Hazard!**

Keep matches, lighted cigarettes, and all other sources of ignition out of the room in which the incubator is located. Textiles, oils, and other combustibles are easily ignited and burn with great intensity in an atmosphere enriched with oxygen.

All oxygen valves, connections, and seals must be kept free from oil and grease. - Open valves slowly.

Do not use any electrical equipment inside the incubator other than equipment and instruments expressly designed and approved for use in incubators.

Physiological risks associated with the use of oxygen

WARNING !**Oxygen Concentration**

The atmosphere inside the incubator should only be enriched with oxygen by or on the order of a physician or respiratory therapist.

It is absolutely essential that elevated oxygen concentrations are selected on the basis of arterially measured oxygen partial pressure in the blood of the baby. This is the only way to minimize the risk of both hyperoxemia, which might cause, above all, retrolenta fibroplasia, and hypoxemia which might contribute to intraventricular hemorrhage and damage to the baby's brain.

Humidification System

WARNING !

Use only pure, distilled or demineralized water. Do not add bactericidal agents.

Precautions During Care

WARNING !

Always follow established hospital procedures for handling equipment contaminated with bodily fluids.

WARNING !

Always disconnect from power before cleaning and disinfecting.

WARNING !

Danger of burn injury

The exposed heater surface will still be very hot after operation. It may take up to one hour for the temperature to drop to 70 °C (158 °F) with the incubator closed.

CAUTION !

Certain components of the incubator consist of materials that are sensitive to certain organic solvents sometimes used for cleaning and disinfecting (e.g., alcohols, phenols, halogen releasing compounds, oxygen releasing compounds, strong organic acids, etc.). Exposure to such substances may cause damage that is not always immediately recognized. Do not sterilize incubator and its components with ethylene oxide (EtO) or by exposure to UV radiation (may cause cracks in the PMMA (Plexiglas®) parts!

Precautions During Maintenance

WARNING !

To avoid risk of infection, clean and disinfect incubator and accessories before any maintenance according to established hospital procedures - this applies also when returning units or parts for repair.

WARNING !

Always disconnect supply before servicing.

WARNING !

Never operate the incubator if it has suffered physical damage or does not seem to operate properly. In this case always refer servicing to properly trained and factory authorized service personnel.

WARNING !

Treatment of batteries

- Do not throw into fire! risk of explosion
- Do not force open! cells contain corrosive acid

WARNING !

Preventive Maintenance work on the Incubator 8000 IC may be performed by trained and factory authorized staff only.

WARNING !

The oxygen cells contain an etching acid. Do not destroy the capsule. Do not touch the liquids if the capsule is leaking. Call DrägerService if capsule is leaking and the incubator is contaminated.

CAUTION !

For disposal of batteries, follow all local, state, and federal legislation with respect to environmental protection.

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Intended Use

Intended Use

For heat therapy and intensive care of premature babies and sick neonates. With servo control of air temperature, skin temperature, humidity, and oxygen.

CAUTION ! **Restriction of Distribution**

Federal Law and Regulations in the United States and Canada restrict this device to sale by or on the order of a physician.

WARNING !

Skin temperature control must not be used with babies in shock. Because of reduced peripheral bloodflow the skin temperature of these babies occasionally lies well below the core body temperature. Using a skin temperature control system could lead to overheating. We recommend operating the incubator in air temperature control mode when caring for patients with such conditions.

WARNING !

Only accessories listed in this Operator's Manual are recommended by Dräger for use with the Incubator 8000 IC. The safety of combinations of this device with other equipment is the sole responsibility of the user and must be determined on the basis of the individual situation.

WARNING !

Do not use cellular or cordless phones or similar equipment within 33 feet (10 m) of the equipment.

Wireless phones may cause malfunction in electromedical equipment.

Use of Oxygen

WARNING !

Oxygen Concentration

The atmosphere inside the incubator should only be enriched with oxygen by or on the order of a physician or respiratory therapist.

Always monitor oxygen concentration!

WARNING !

It is absolutely essential that elevated oxygen concentrations are selected on the basis of arterially measured oxygen partial pressure in the blood of the baby. This is the only way to minimize the risk of both hyperoxemia, which might cause, above all, retrolenta fibroplasia, and hypoxemia which might contribute to intraventricular hemorrhage and damage to the baby's brain.

WARNING !

The oxygen cells contain an etching acid. Do not destroy the capsule. Do not touch the liquids if the capsule is leaking. Call DrägerService if capsule is leaking and the incubator is contaminated.

Description

Principle of Operation

Heated and humidified air flows into the hood over the full width of the incubator. It is channeled up the front door, along the roof of the hood, and then drawn down along the rear wall via suction.

The baby lies in an area with very little air flow, so that heat loss from convection is minimal.

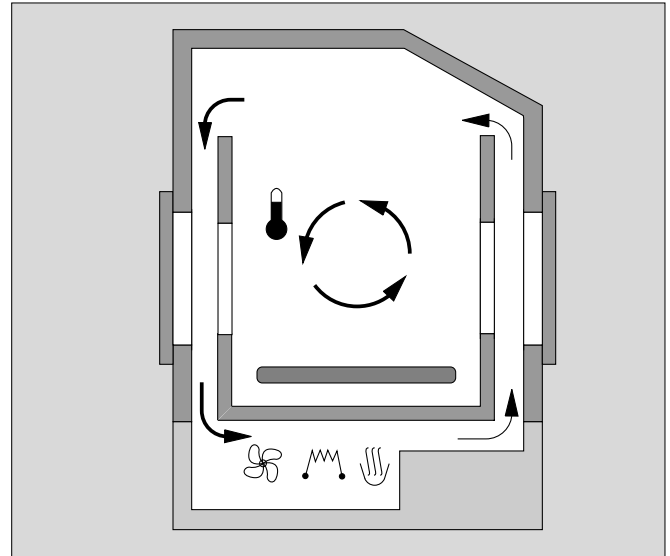
When opening the hand ports, an effective warm air curtain is retained minimizing cooling of the inside of the incubator.

The mattress is made of soft foam plastic encased in film, with low conductive heat loss for the patient.

Humidity

The incubator air is humidified hygienically by evaporation of boiling water from a water container.

Humidity can be set manually between 30 and 85 %.



Control

A microprocessor controls the incubator. When it is switched on, and every 10 minutes thereafter, the incubator automatically performs a general self-test. This test checks all safety relevant components.

The heating system is switched off automatically if operating conditions are outside permitted limits.

An auxiliary cooling fan cools the air effectively as soon as the measured value of air temperature exceeds the set value.

Safety features

After being switched on, the incubator performs a self-test involving a check of all memories in the microprocessor control system and a check to establish whether the various program segments are running correctly.

The function of actuators, feedback signals, and displays is checked by switching them on and off. This test is also repeated every 10 minutes during operation, testing all modules installed in the incubator. An error message is generated for a defective module, even if it is switched off.

Alarm Hierarchy

The incubator features a hierarchical system of alarms. Any faults occurring generate an alarm signal that is communicated according to its priority. If a non-essential function fails, the functions which are of vital importance remain in operation.

Continuous audible alarm cannot be silenced, employed for faults which entail the greatest potential danger:

- "Air temperature sensor" alarm
- "Skin temperature sensor" alarm
- "Fan failure" alarm.

Intermittent audible alarm can be silenced for 10 minutes, for faults associated with a somewhat lower level of potential danger:

- Deviations from set values
- Air temperature too high
- Water shortage.

In addition, the respective alarm LEDs flash.

If another alarm occurs while the alarm sound has already been silenced, the audible alarm is automatically reactivated. Depending on the cause of the new alarm, this audible alarm may also be silenced. The period for the first audible alarm to automatically recur is then prolonged by the time interval between the two alarms.

Ergonomics

The hand ports' oval shape allows maximum freedom of movement with low cross-section for reduced heat loss.

The incubator features swiveling castors for good mobility. Two of the castors can be locked in position.

Ancillary equipment can be attached to the side rails.

A swivel cabinet provides storage for patient care supplies.

Hygiene

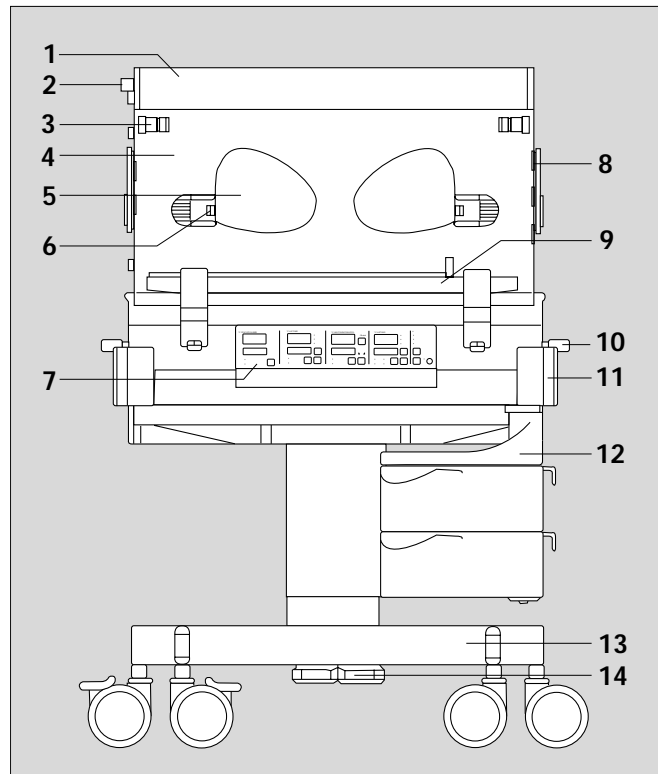
All parts of the incubator which come into contact with the atmosphere breathed by the baby can be removed from the base unit for disinfecting.

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What's What

Front View

- 1 Hood
- 2 Sensor module
- 3 Front door latch
- 4 Front door
- 5 Hand port
- 6 Hand port latch
- 7 Control panel with quick reference on flap
- 8 Tube through bearings
- 9 Bed with mattress and endboard
- 10 Mounting rail, left and right
- 11 Bed tilt hand wheels, left and right
- 12 **Swivel cabinet**
- 13 Variable height mobile stand with four castors (2 lockable)
- 14 Height adjustment foot switches

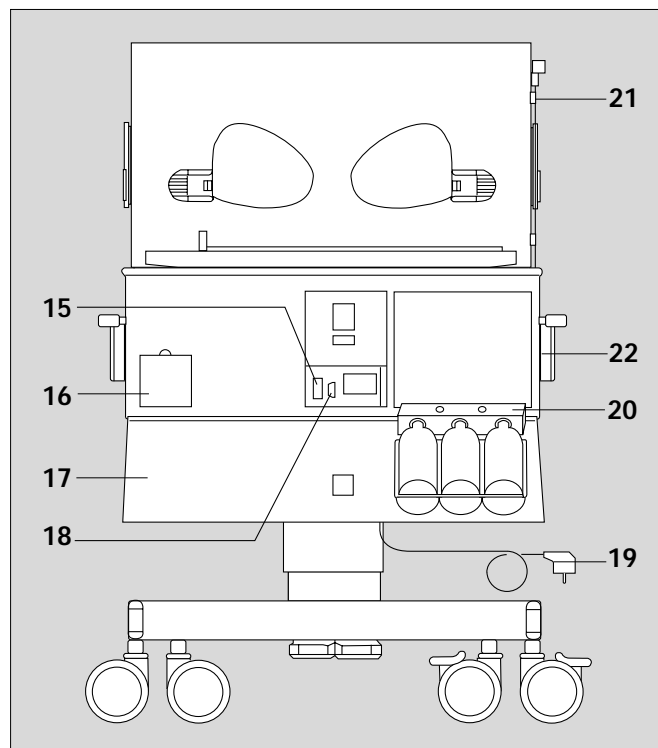


Rear View

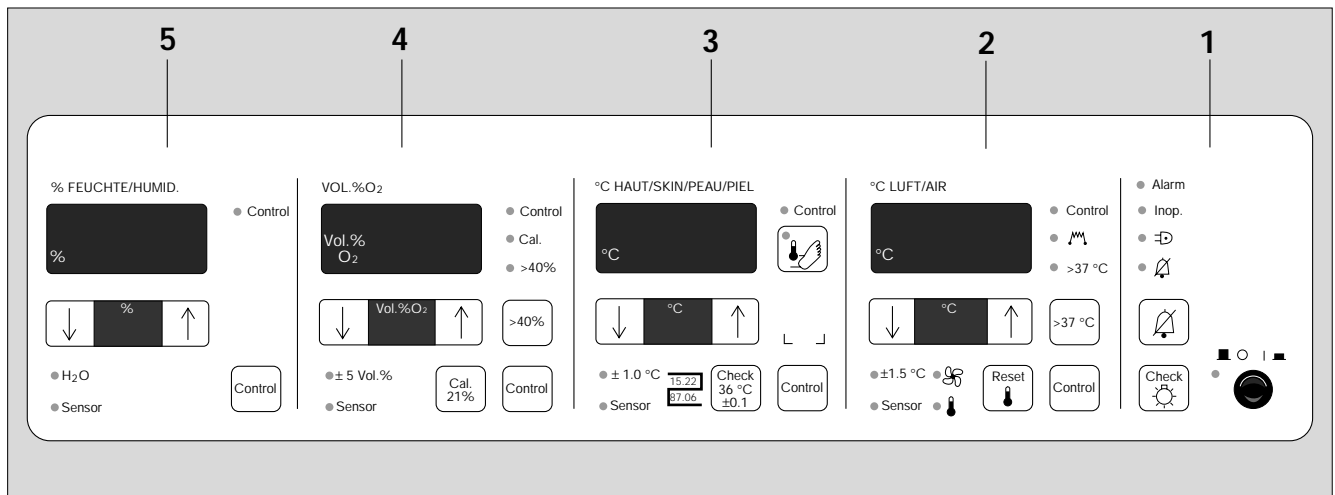
- 15 Type Plate with Serial Number
- 16 Air filter
- 17 Rear panel
- 18 Power cable
- 19 Water bottle holder, for three water bottles or optional automatic water feed system

On the side of the incubator

- 20 Connector for skin temperature sensor. Upper connector for skin temperature, lower connector for optional thermo monitoring.
NOTE: The connectors are keyed and color coded.
- 21 Sensor cable guide



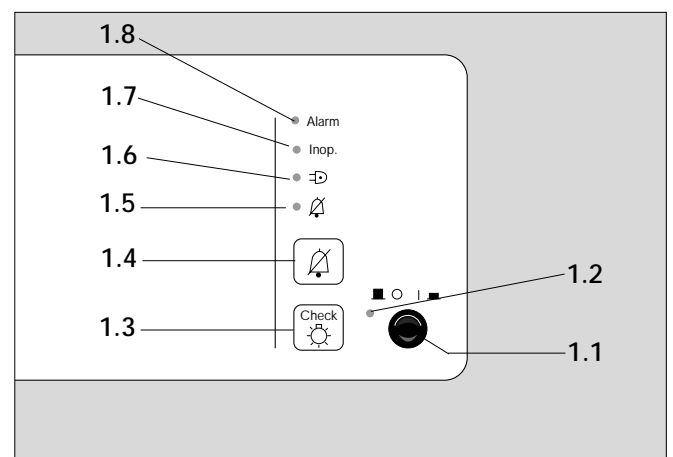
Control Panel






- 1 Main module with on/off switch and check key
- 2 Air temperature control module
- 3 Skin temperature control module
- 4 Oxygen control module
- 5 Humidity control module

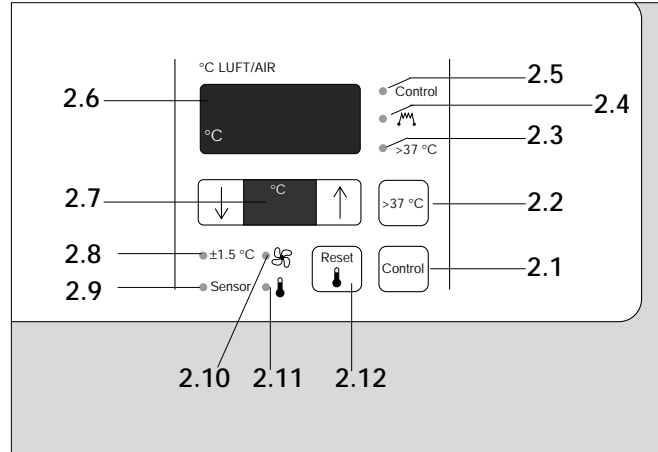
Main Module

- 1.1 Red on/off switch for line power
- 1.2 Green LED, stays lit while incubator is switched on.
- 1.3 Key for checking operation of displays, LEDs and audible alarm.
- 1.4 Silence key for muting audible alarm for 10 minutes.
- 1.5 Yellow LED stays lit while intermittent audible alarm is silenced.
- 1.6 Red LED is lit during power failure.
- 1.7 Red LED **Inop** lights in case of a defect during operation
- 1.8 Red LED **Alarm** lights in case of an alarm



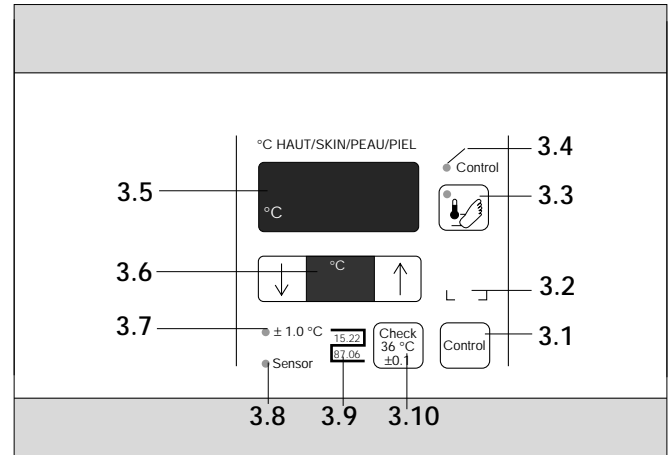
Air Temperature Control Module

- 2.1 Key to switch on air temperature control (only with skin temperature control option).
- 2.2 Unlocking key, extends range for set temperatures
- 2.3 Yellow LED $>37^{\circ}\text{C}$, is lit when a higher range of values has been set.
- 2.4 Green LED  indicates warming-up phase.
- 2.5 Green LED **Control**, stays lit while air temperature control is on.
- 2.6 Display for actual (measured) value of air temperature.
- 2.7 Display for set value of air temperature;
left key: decreases set value
right key: increases set value
- 2.8 Red LED $\pm 1.5^{\circ}\text{C}$
flashes/is lit while the measured value of the air temperature is deviating from the set value by more than 1.5°C .
- 2.9 Red LED **Sensor**
flashes when air temperature sensor is defective.
- 2.10 Red LED  flashes in case of fan failure.
- 2.11 Red LED  for overtemperature
Lights up when air temperature is or was higher than 38°C (40°C during operation in extended range) and after an **inop**-alarm.
- 2.12 Key to reset overtemperature alarm.



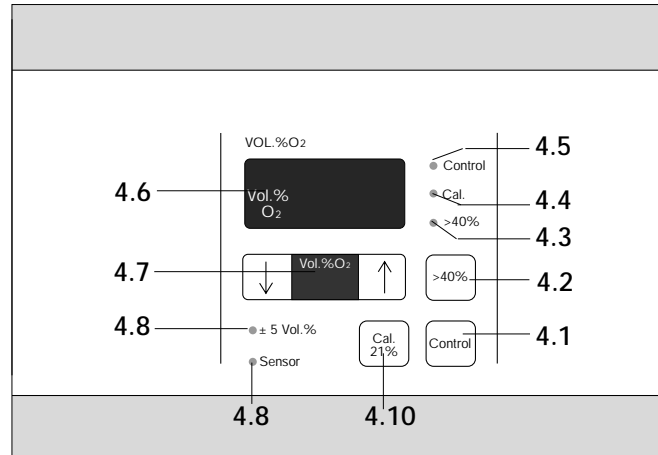
Skin Temperature Control Module

- 3.1 On/off button for skin temperature control.
- 3.2 Calibration sign, not applicable in the US.
- 3.3 Button to display the peripheral skin temperature.
- 3.4 Green LED Control; is lit when skin temperature module is switched on.
- 3.5 Display for actual (measured) value of skin temperature.
- 3.6 Display for set value for skin temperature
left key: decreases set value
right key: increases set value
- 3.7 Red LED $\pm 1.0\text{ }^{\circ}\text{C}$
flashes/is lit when the measured value of skin temperature deviates from the set value by more than $1.0\text{ }^{\circ}\text{C}$.
- 3.8 Red LED **Sensor**
flashes/is lit when the skin temperature sensor is defective or disconnected.
- 3.9 Registration sign, not applicable in the US.
- 3.10 Key for simulating reference temperature of $36 \pm 0.1\text{ }^{\circ}\text{C}$.



Oxygen Control Module

- 4.1 On/off button for the oxygen control.
- 4.2 Unlocking key, extends the range of oxygen set concentration up to 75 % FiO₂.
- 4.3 Yellow LED >40 % FiO₂; is illuminated when set range was extended.
- 4.4 Yellow LED Cal.; flashes when calibration should be performed.
- 4.5 Green LED Control; is illuminated when oxygen control is switched on.
- 4.6 Display of the current measured value of FiO₂.
- 4.7 Display of the FiO₂ set value; left arrow down: will reduce the set value right arrow up: will increase the set value.
- 4.8 Red LED ± 5 % FiO₂; flashes when the measured value of FiO₂ deviated more than 5 % from the set value.
- 4.9 Red LED Sensor; flashes when the sensor is defective, the module swivelt out or not connected is.
- 4.10 Calibration button for the O₂-Sensors.

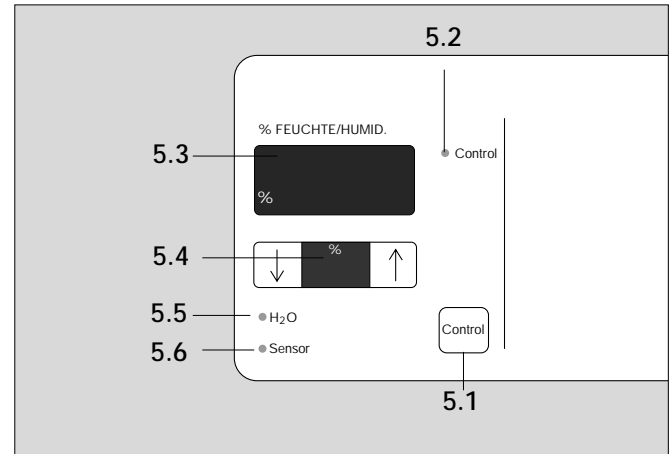


Humidity Control Module

- 5.1 On/off button for humidity control.
- 5.2 Green LED **Control**; is illuminated when humidity control is on.
- 5.3 Display of the current measured value of relative humidity in %.
- 5.4 Display of the humidity set value; left arrow down: decrease the set value right arrow up: increase the set value.
- 5.5 Red LED **H₂O**; flashes when water supply is empty.
- 5.6 Red LED **Sensor**; flashes when the humidity sensor is defective.

Note: When refilling with cold water the humidity level in the incubator will decrease for a limited time. After the water is heated up again by the humidification system, the humidity inside the incubator hood will increase again to set value.

- 5.6 Red LED **Sensor**; lights up when the humidity sensor is defective.



Labels

WARNING !
DANGER OF PATIENT INJURY
NEVER LEAVE BABY UNATTENDED WHEN
FRONT DOOR OR HAND PORTS ARE OPEN

DANGER !
RISK OF EXPLOSION IF USED IN THE PRESENCE OF FLAMMABLE
ANESTHETICS

WARNING - FIRE HAZARD !
KEEP MATCHES, LIGHTED CIGARETTES, AND ALL OTHER SOURCES
OF IGNITION OUT OF THE ROOM IN WHICH THE INCUBATOR IS
LOCATED. TEXTILES, OILS, AND OTHER COMBUSTIBLES ARE EASILY
IGNITED AND BURN WITH GREAT INTENSITY IN AIR ENRICHED WITH
OXYGEN.

ALL OXYGEN VALVES, CONNECTIONS, AND SEALS MUST BE KEPT
FREE OF OIL AND GREASE. - OPEN VALVES SLOWLY.

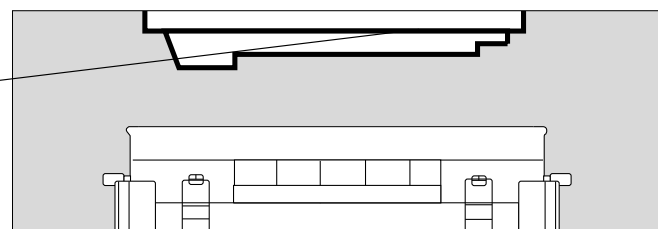
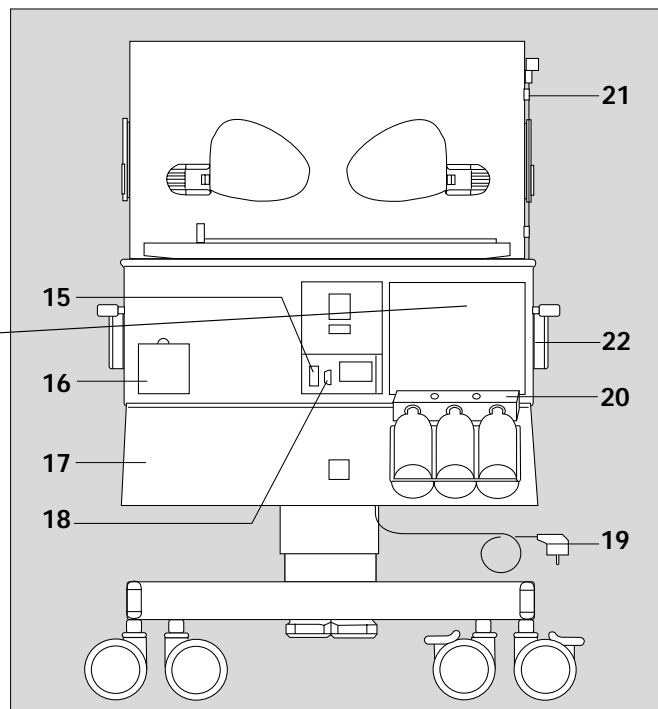
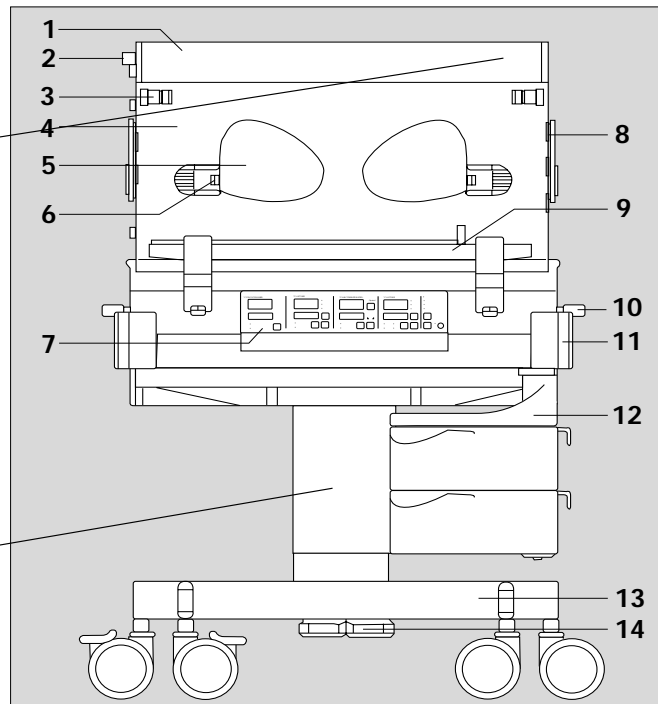
DO NOT USE ANY ELECTRICAL EQUIPMENT INSIDE THE INCUBATOR
OTHER THAN EQUIPMENT OR INSTRUMENTS EXPRESSLY DESIGNED
AND APPROVED FOR USE IN INCUBATORS.

WARNING !
THE ATMOSPHERE INSIDE THE INCUBATOR SHOULD ONLY BE
ENRICHED WITH OXYGEN BY OR ON THE ORDER OF A PHYSICIAN
OR RESPIRATORY THERAPIST.
IT IS ABSOLUTELY ESSENTIAL THAT ELEVATED OXYGEN CONCENTRATIONS
ARE SELECTED ON THE BASIS OF ARTERIALLY
MEASURED OXYGEN PARTIAL PRESSURE IN THE BLOOD OF THE
BABY. THIS IS THE ONLY WAY OF MINIMIZING THE RISK OF BOTH
HYPEROXEMIA, WHICH MIGHT CAUSE, ABOVE ALL, RETROLENTAL
FIBROPLASIA, AND HYPOXEMIA WHICH MIGHT CONTRIBUTE TO
INTRAVENTRICULAR HEMORRHAGE AND DAMAGE TO THE BABY'S
BRAIN.

CAUTION !
TO MAINTAIN GROUNDING INTEGRITY, CONNECT ONLY TO A
"HOSPITAL GRADE" RECEPTACLE
TO REDUCE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER
USE ONLY DRY AND CLEAN COMPRESSED AIR AND OXYGEN. WATER
IN GAS SUPPLY CAN CAUSE EQUIPMENT MALFUNCTION
FEDERAL (USA) LAW RESTRICTS THIS DEVICE TO SALE BY OR ON
THE ORDER OF A PHYSICIAN

WARNING !
USE ONLY PURE, DISTILLED WATER
DO NOT ADD BACTERICIDAL AGENTS

WARNING !
DANGER OF BURNING INJURY
DO NOT TOUCH HOT HEATER ELEMENT
LET HEATER COOL DOWN BEFORE
CLEANING



Preparation

Note: The incubator is delivered fully assembled.

Before First Time Use

- Check that all packaging material has been removed.

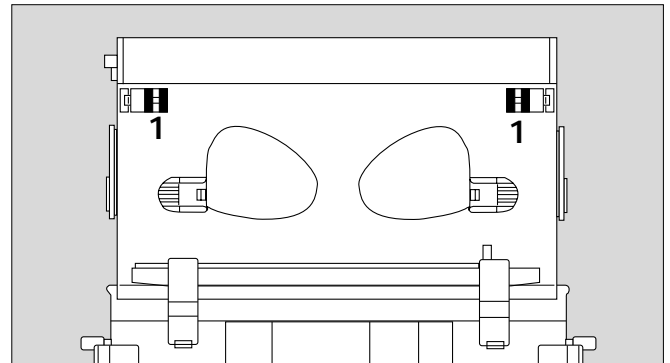
Front Flap

To open the front flap

- 1 Squeeze catches with thumb and index finger and open the front door.

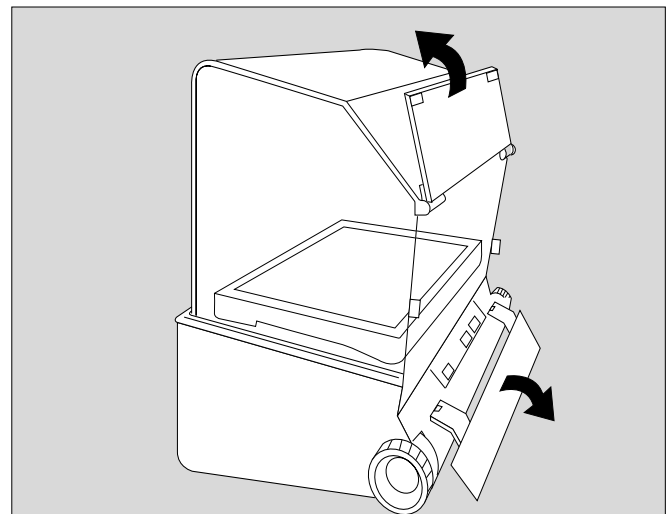
Regular front flap: Guide flap slowly down until it rests completely on the incubator base.

Scandinavian flap: Swing upper part of the flap up until it rests completely on the hood.



To close the front flap

Press latch together with thumb and index finger and press front flap against the hood. Once the front flap is properly closed, the red index will no longer be visible.



Scandinavian Hood, USA Standard


Quick Reference Flap

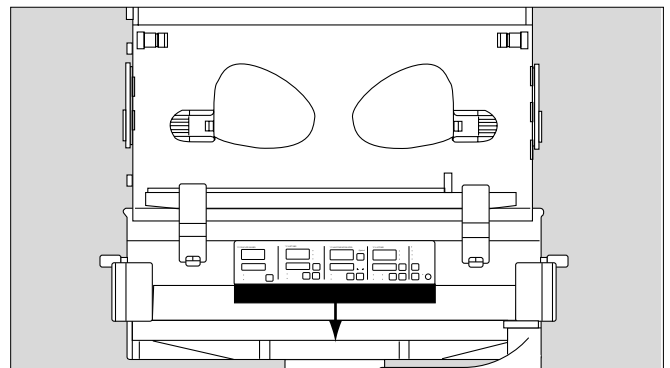
- swing flap down to:
 - switch on the incubator,
 - change the set values

Then

- swing flap up to eliminate the chance of unintended changes to the settings.

To silence the intermittent audible alarm:

- Press the with  labeled spot on the flap.



Preparation

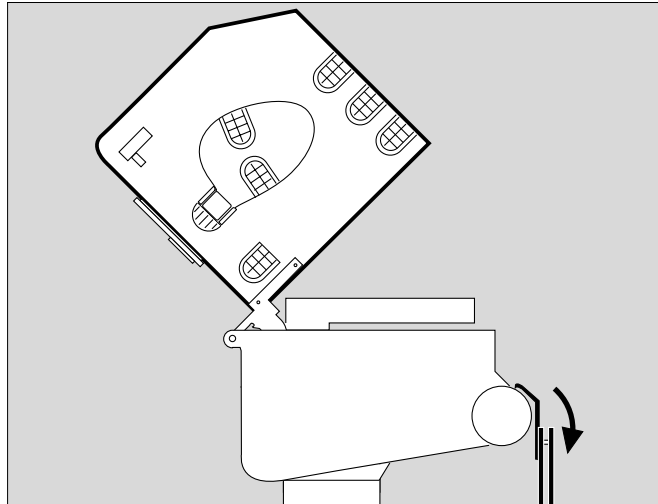
Hood
Open up Double Walls
Mattress

Hood

To open the hood

Tilt the hood back as far as it will go.

Note: Do not let the hood fall back to the normal position on the incubator base by itself. This may damage the incubator and the hood.



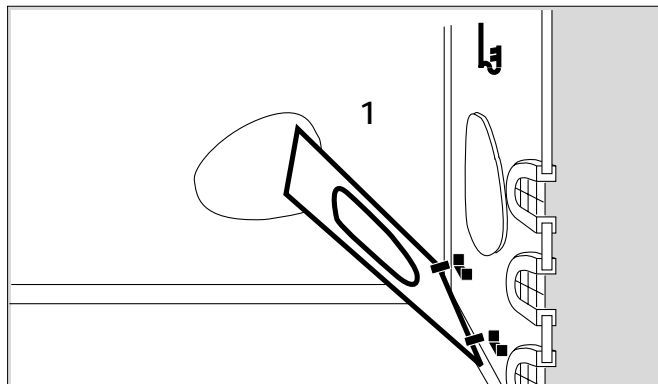
Open up Double Walls

e.g. to clean the hood or remove them

open front door.

1 open upper clamp and fold up inner wall.

to put the inner wall back in operating position fold up the panel and push against the clamp.

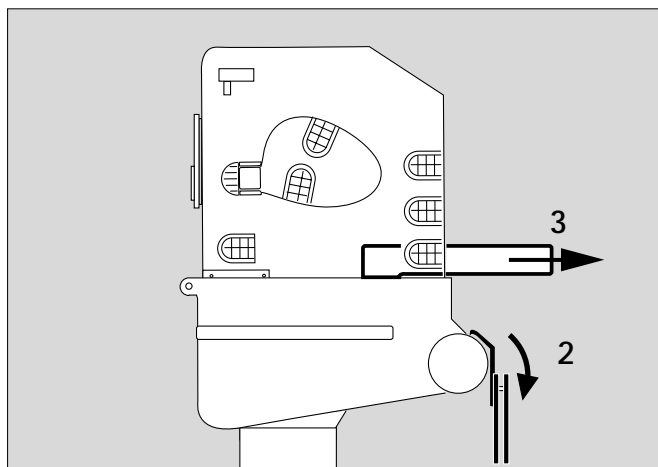


Mattress

To pull out the mattress

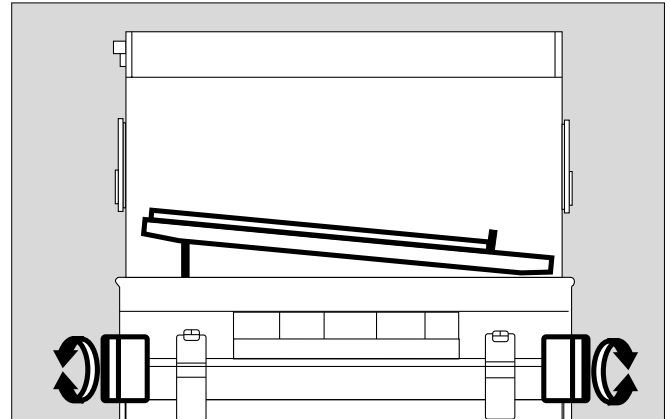
2 open front door

3 pull out strecher with mattress as far as it goes.



Trendellenburg Position

- Turn left hand wheel to raise the left side of the mattress for Trendelenburg position.
 Turn right hand wheel to raise the right side of the mattress for reverse Trendelenburg position.
- Adjust the mattress to the desired position.



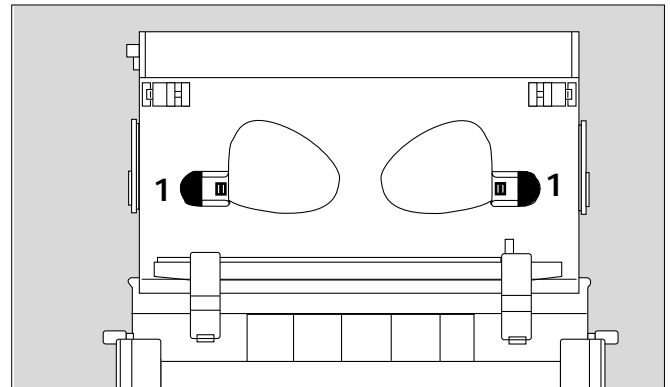
Port Hole Doors

To open a port hole door

- 1 press the outer part of the notch down and the port hole door will swing open.

To close a port hole door

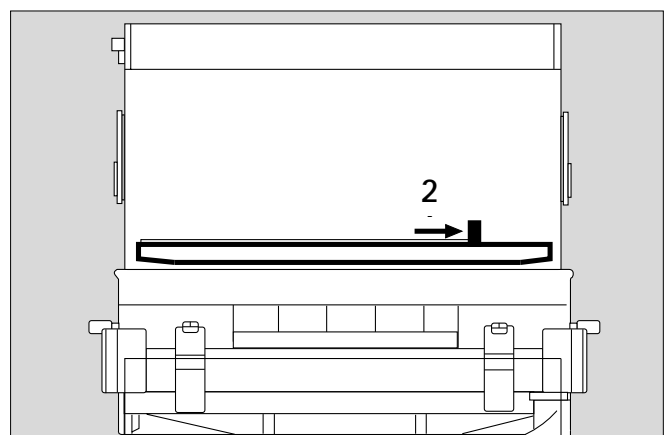
- press door gently back until it snaps in with a click.



Repositioning Bed Endboard

Board may be used at right or left end of bed, as required.

- Squeeze catches with thumb and index finger and open the front door.
- 2 Push middle of endboard outwards until released from its groove, and
 - reposition on other end of bed.
 - Cover mattress with clean sheet and place on bed.
 - Close front door. Red marks on door catches should no longer be visible indicating that the catches are fully engaged.



Preparation

Adjust Working Height

Open Rear Panel

Adjust Working Height

connect with mains power

- 1 push down right foot pedal – incubator will drive up
- 2 push down left foot pedal – incubator will drive down

WARNING !

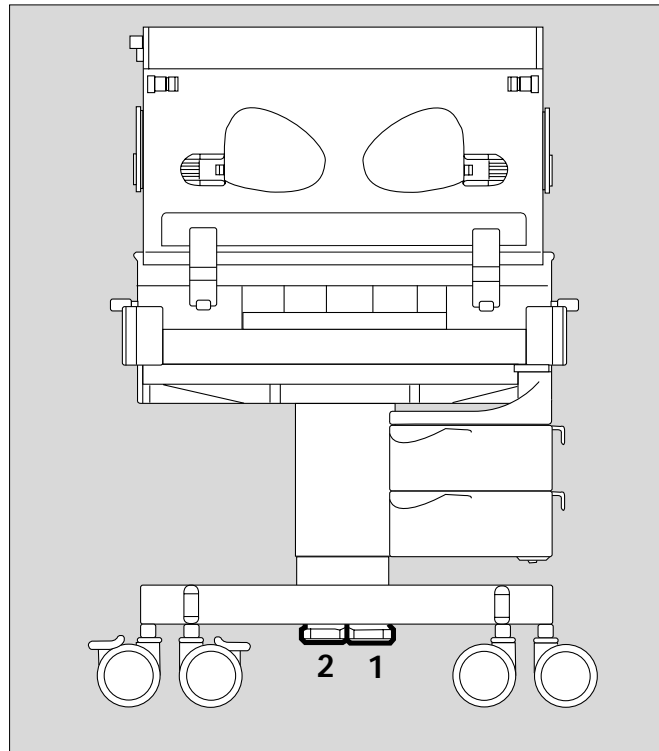
This device is to be used only in rooms with line power installations complying with national safety standards for hospital patient rooms. (e.g., IEC 601.1, "Safety of Medical Equipment).

To maintain grounding integrity, connect only to a "hospital grade" receptacle. Always disconnect supply before servicing.

WARNING !

Keep space above the incubator clear of obstruction!

Nothing must be kept below the storage cabinets. Hoses, circuits, and cables must be long enough for the height of the incubator being adjusted. They must be routed in a way that no kinking, disconnection or squeezing can occur.



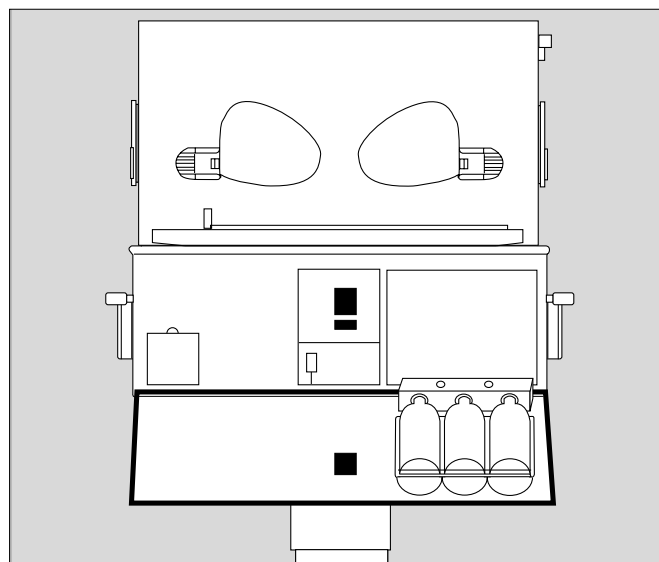
Open Rear Panel (if installed)

- Open and lower incubator rear panel

in order to:

- change water bottles
- change air filter
- connect sensor module connector

- close rear panel



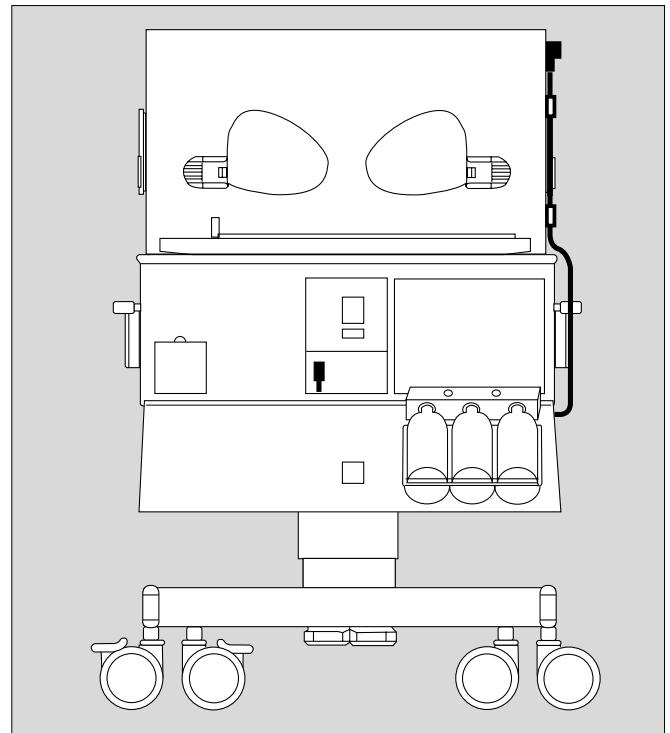
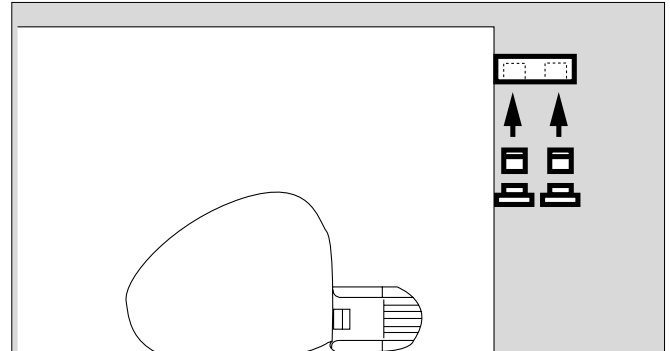
Connecting Sensor Module

The sensor module contains the sensors for
air temperature
humidity and
oxygen concentration (two sensors).

- swing module outwards and lift it up
- to mount the O₂ sensors, unscrew the retaining cap. Install O₂ sensor and put retaining cap back in place.
- engage sensor module and swing module back into place.
- open and lower incubator rear panel.
- slide the sensor module connector plug through slot in the middle compartment from underneath.
- securely attach connector to socket.
- route sensor cable using cable clips provided on the hood.
- close incubator rear panel.

WARNING !

The oxygen cells contain an etching acid.
Do not destroy the capsule. Do not touch the
liquide if the capsule is leaking.
Call Drager Service if capsule is leaking and
the incubator is contaminated.



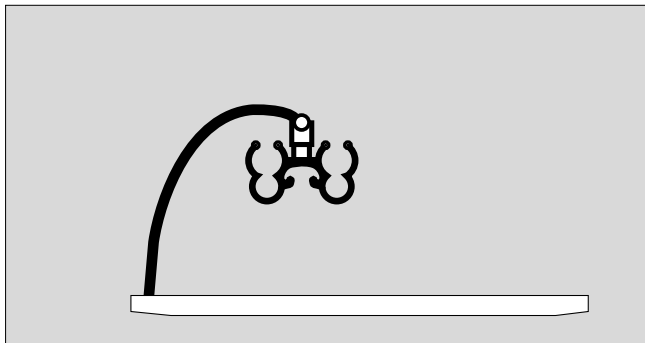
Mounting Accessories

Ventilator circuit support arm Instrument tray Mounting plate

Mounting Accessories

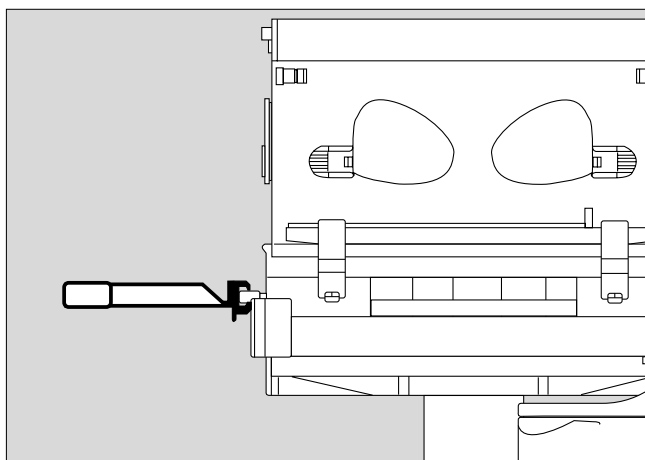
Ventilator circuit support arm

- Fold down front door.
- Raise bed and lift out of incubator.
- Push mattress slightly to one side.
Push hose support into appropriate hole, right or left.
- Screw on knurled screws from below and tighten.



Instrument tray (for small items)

- Attach tray to hand rail and tighten.
Observe load limit of 4 lbs (2 kg).



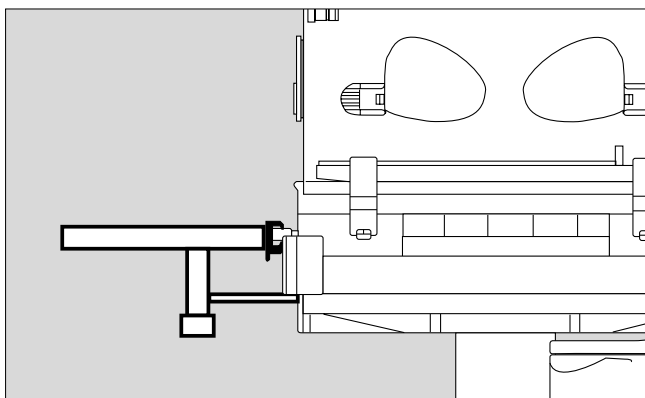
Mounting plate

Monitor and ventilator support with latching system for standard Dräger RS enclosure, e. g. Babylog 8000.

CAUTION !

Maximum load on RS mounting plate must not exceed 55 lbs (25 kg).

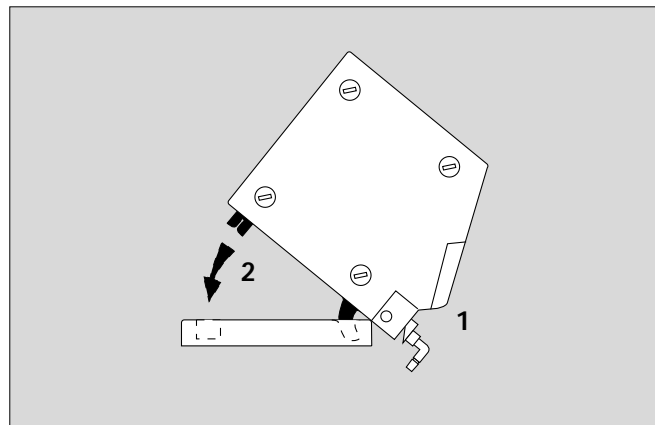
- Attach plate to rail and tighten clamp.
- Adjust the support arm that the plate is level.



Attaching equipment to mounting plate

Example: Babylog 8000

- Remove plastic foot strips from ventilator.
 - Tilt Babylog forward by about 45°.
- 1 Insert front latches into slots in mounting plate.
 - 2 Lower Babylog, insert rear latches into slots in mounting plate, and secure at the back with knurled screws.



Upright Mounting Support

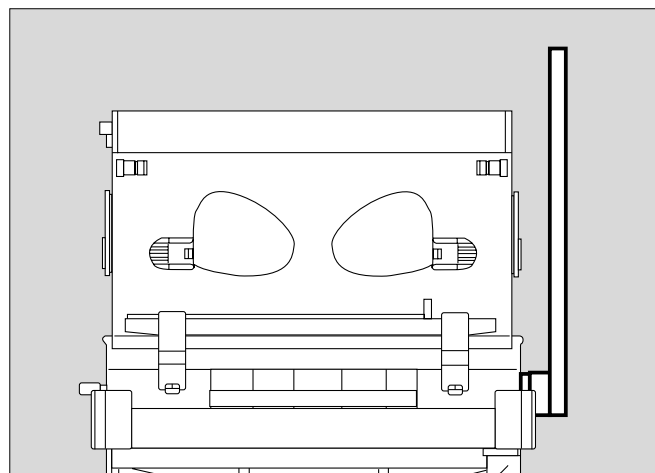
- Attach the Upright Mounting Support with the two included screws to the incubator base. The diameter of the pole 1 1/2 inches.

CAUTION !

Maximum load on IV-pole must not exceed 11 lbs (5 kg).

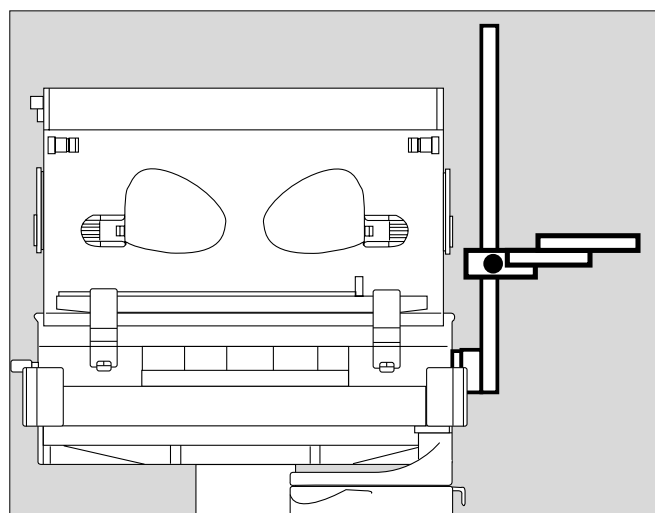
CAUTION !

Do not use the pole to push or pull the incubator. Always use the hand rails.



Hinged Swivel Shelf

- Swivel shelf for small items, up to 3 kg weight. Attach with the bracket to the pole, tighten with hand knob.
- Check regularly for tightend hand knob.



Additional swivel cabinet (option)

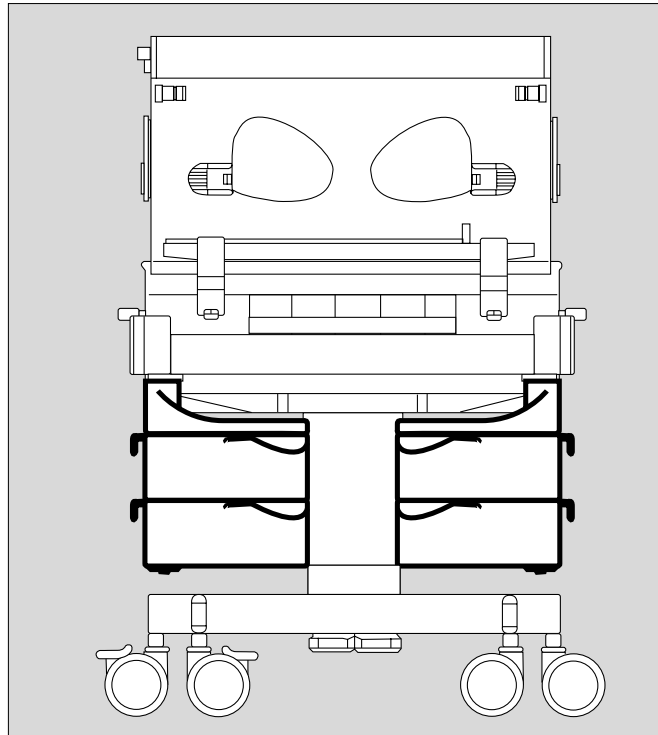
To install a swivel cabinet:

- Push hex cap screw up through cabinet from below and tighten to mounting bracket on incubator.
- Insert extra drawer organizers.

WARNING !

Keep space above the incubator clear of obstruction!

Nothing must be kept below the storage cabinets. Hoses, circuits, and cables must be long enough for the height of the incubator being adjusted. They must be routed in a way that no kinking, disconnection or squeezing can occur.



Note: When using electrical equipment, such as pulse oximeters or Laptop Computers with the Incubator 8000 IC always verify that the devices fulfill the leakage current requirements.

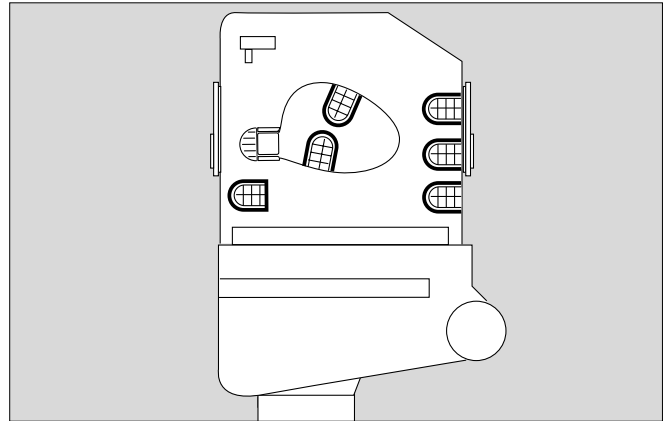
If necessary use an medical isolation transformer to limit the leakage current.

Check with the Biomed Department in your hospital or call Drager Service.

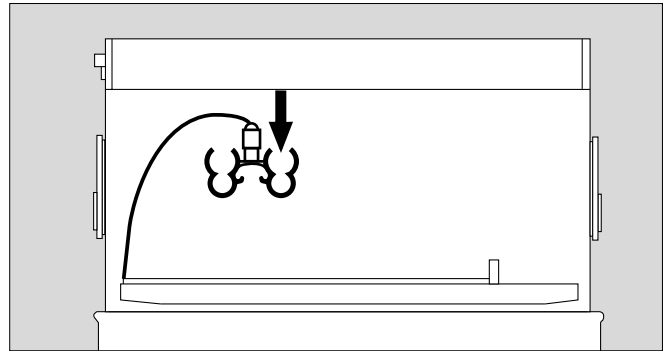
Routing Cables and Hoses

- Route hoses, cables, or lines through the access grommets provided.

Note: Port hole doors with additional access grommets are available upon request for both left and right door flaps.



- Attach ventilator circuits and cables to clips on end of support arm.



Preparing for Oxygen Therapy

Enriching incubator atmosphere with oxygen using oxygen control module

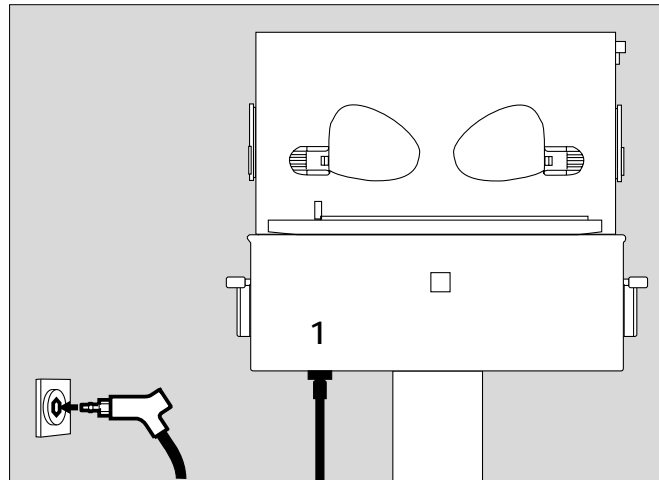
- 1 Attach O2 hose to O2 port at the right underneath incubator body.
- Attach the O2 hose to the O2 wall outlet.

WARNING ! Fire Hazard!

Keep matches, lighted cigarettes, and all other sources of ignition out of the room in which the incubator is located. Textiles, oils, and other combustibles are easily ignited and burn with great intensity in an atmosphere enriched with oxygen.

All oxygen valves, connections, and seals must be kept free from oil and grease. - Open valves slowly.

Do not use any electrical equipment inside the incubator other than equipment and instruments expressly designed and approved for use in incubators.

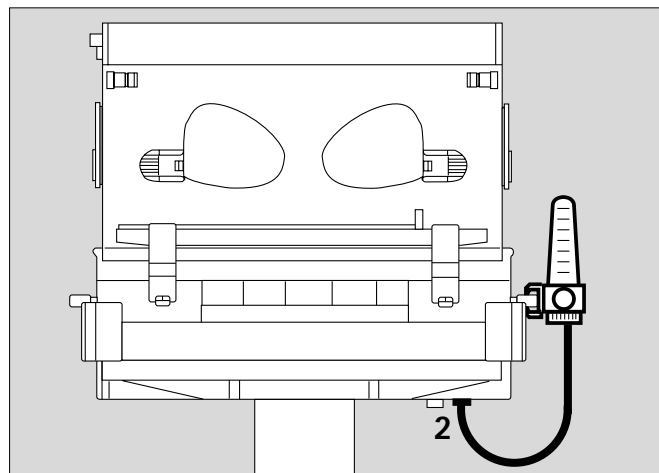


Enriching incubator atmosphere with oxygen without using oxygen control module

If oxygen control is not functional

- Always observe all Operating Instructions of the equipment used.
- Mount O2 flowmeter to rail or directly to O2 wall outlet
- Attach hose to connector nipple on O2 flowmeter and
- 2 to O2 port at the right underneath incubator body.

NOTE: The Incubator 8000 IC features an unrestricted oxygen input port. In order to restrict flow to limit oxygen concentrations, use external oxygen limiter.



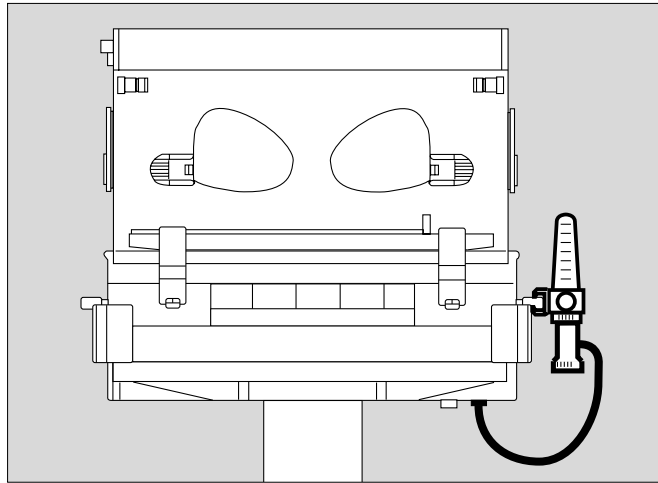
If an oxygen limiter is used:

- Connect oxygen limiter between O₂ flowmeter and incubator port.

WARNING !

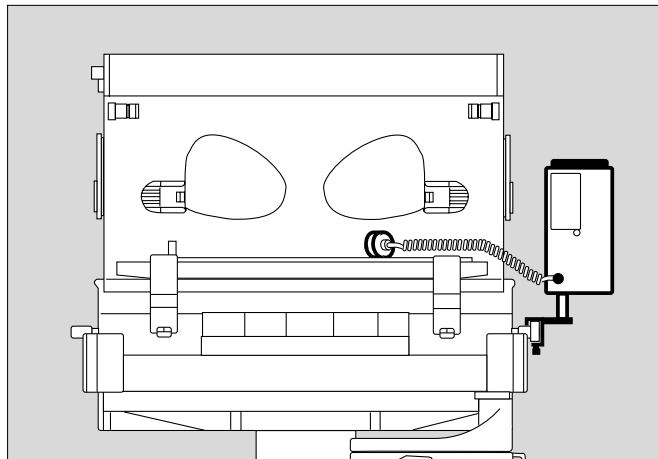
Oxygen Concentration

It is absolutely essential that elevated oxygen concentrations are selected on the basis of arterially measured oxygen partial pressure in the blood of the baby. This is the only way to minimize the risk of both hyperoxemia, which might cause, above all, retrolenta fibroplasia, and hypoxemia which might contribute to intraventricular hemorrhage and damage to the baby's brain.



- Attach O₂ analyzer to rail with appropriate clamp adapter
- Place O₂ sensor inside the incubator.
- Use U-grommets to route sensor cable through incubator hood and connect sensor to analyzer.

NOTE: Always follow the operators instruction for the Oxygen analyzer. Follow calibration instructions for calibration of the oxygen analyzer.



Before each use
Checking height adjustment

Checking Readiness for Operation

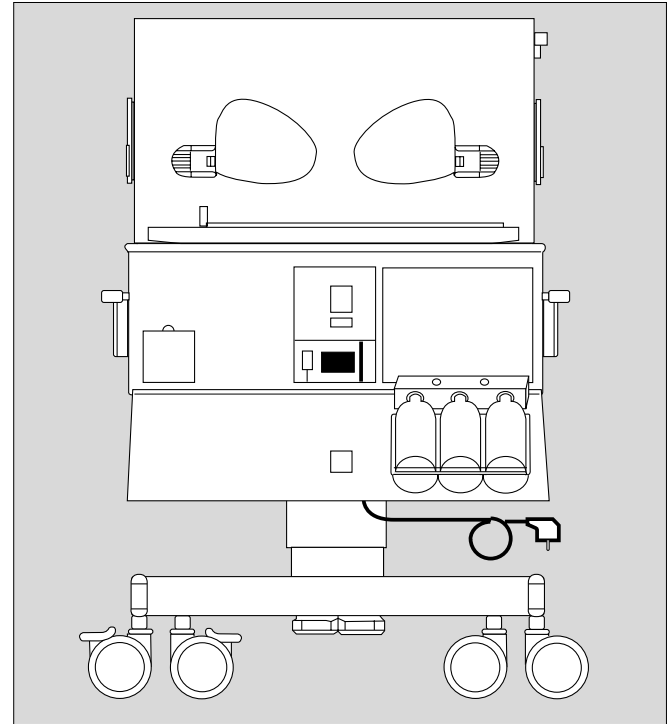
Checking Readiness for Operation

Before using incubator for the first time

- Verify that line voltage corresponds to the specification on the rating plate. Check under section Technical Data for supply voltage range.

Before each use

- Verify that equipment has been disinfected.
- Check that adequate gas supply is available for all equipment to be used.
- Check that all accessories and therapy equipment required are available and in good condition. Check readiness for operation of accessories according to their respective Operating Instructions.
- Check that the incubator hood has no cracks or sharp, chipped edges.
- Check that hinges and pivots on the hood are in proper working order. Especially check the front door hinges and all port hole doors for proper function.
- Check that all cables and hoses are routed correctly and securely.
- Connect to line power.



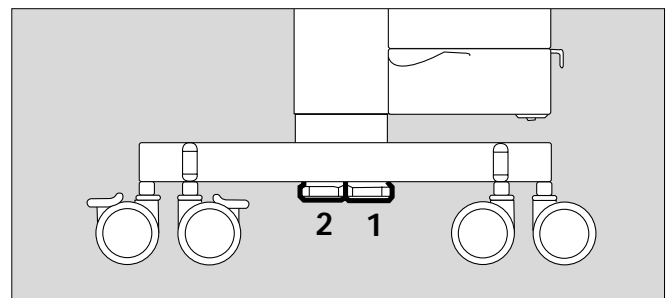
WARNING !

This device is to be used only in rooms with line power installations complying with national safety standards for hospital patient rooms. (e.g., IEC 601.1, "Safety of Medical Equipment).

To maintain grounding integrity, connect only to a "hospital grade" receptacle. Always disconnect supply before servicing.

Checking height adjustment

- 1 Press right foot pedal – incubator is raised.
 - 2 Press left foot pedal – incubator is lowered.
- Adjust to a convenient working height.



Checking hand ports, front door and air filter

Testing bed tilt mechanism

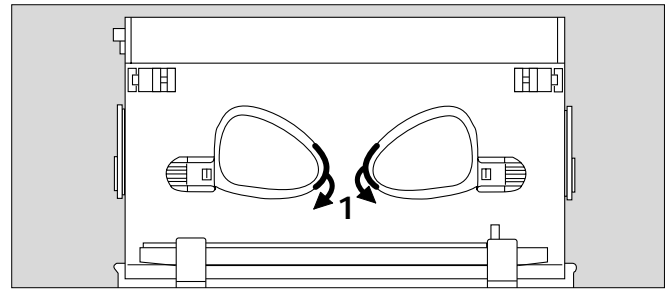
Checking Readiness for Operation

Checking hand ports for proper closure

- 1 Grip rim of closed hand port and pull outwards – it should not open.

In case hand port does not remain engaged:

- Call DrägerService. Do not place a baby in the incubator when a hand port does not close properly. Always check all the hand ports.

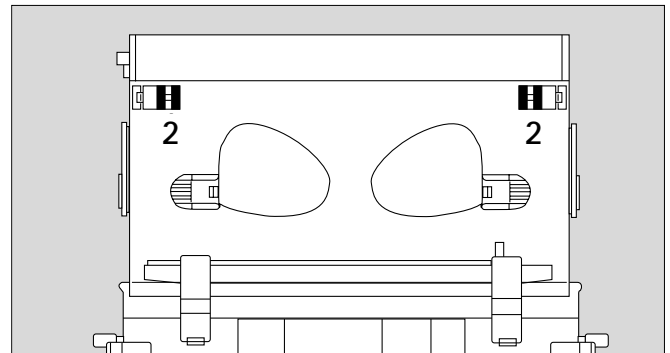


Checking front door for proper closure

- 2 Squeeze catches together on both sides with thumb and index finger – front door flaps open.
- Close front door. Red marks on door catches should no longer be visible indicating that the catches are fully engaged. Check for correct closure by pulling the door carefully forwards.

If the front door does not engage properly:

- Call DrägerService.



Checking air filter

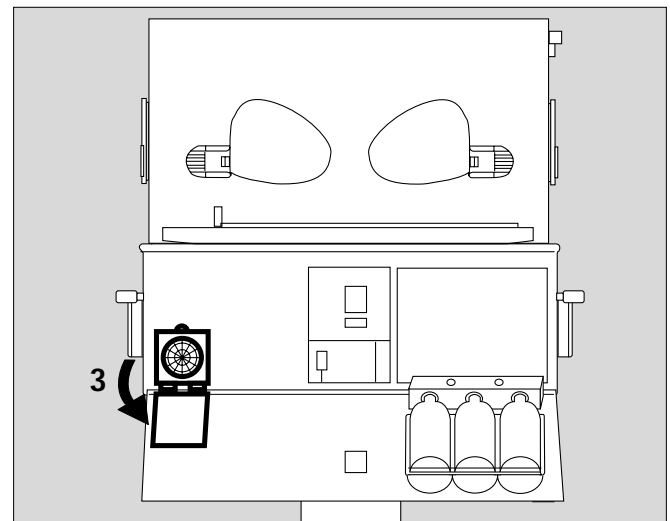
- Open back flap
- 3 Flip filter cover plate down.

If a filter is installed:

- Remove filter and check installation date; write-on label should be on edge of filter.

If filter is more than 2 months old:

- Replace with a new filter and write installation date on filter label.
- Press filter firmly into the seal. Make sure that the direction of flow through filter is correct. Arrow on filter indicating flow direction must point into incubator.

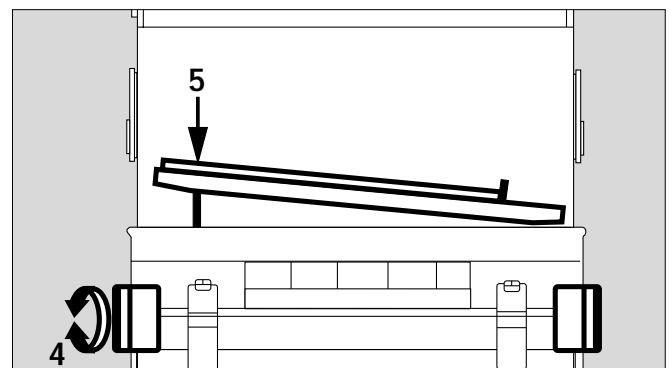


Testing bed tilt mechanism

- 4 Raise left side of the mattress to maximal height.
- 5 Press down on raised bed with hand – bed must not drop down.

If bed drops down:

- Call DrägerService.
- Repeat the same procedure for the right side.



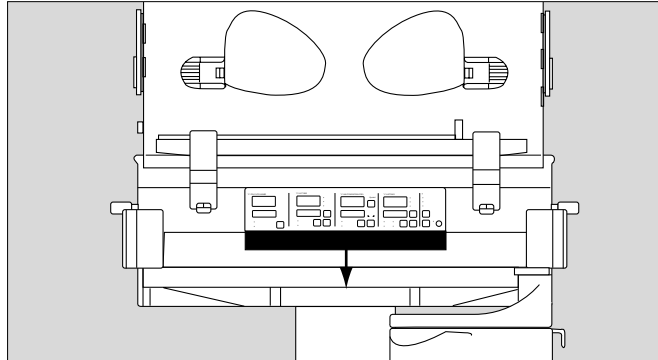
Checking Readiness for Operation

Activating incubator self-test

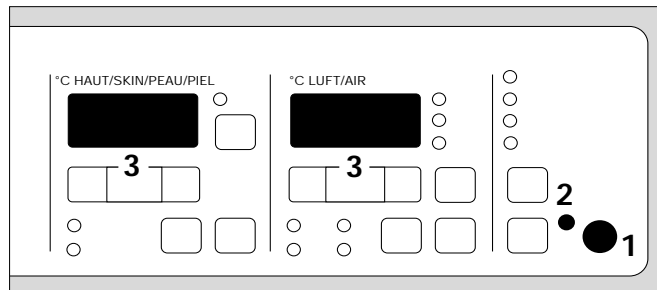
Checking power failure alarm

Activating incubator self-test


- Swivel down flap with short description.



- 1 Push power switch down – until it engages = ON. Incubator performs self-test.
- 2 Green LED is lit.
- 3 Display of measured values shows dashes.
If Err is displayed = error, see under section Trouble Shooting in this manual.



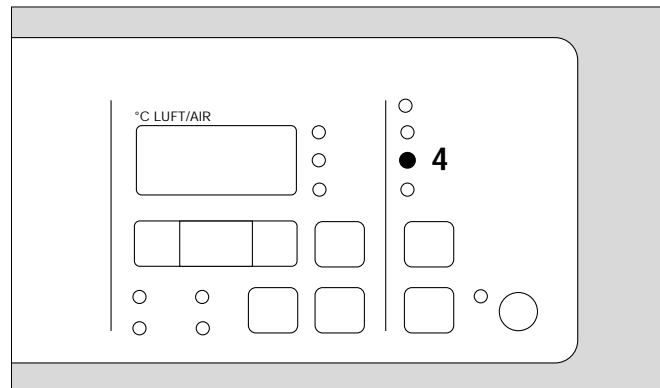
Checking power failure alarm and NiCd battery

- Disconnect power (while unit is switched on).
- 4 Red LED  lights up. Continuous audible alarm starts. The volume should remain constant for at least 30 seconds.


If the volume drops too soon:

- Leave incubator connected to power and switched on for 24 hours to charge NiCd battery.
- Repeat check.

If volume still drops too soon: Call DrägerService.



Checking LEDs, displays and alarm sound

- 1 Press  button:
For about 2 seconds – all LEDs are lit (except the power failure LED), the digital displays show **88.8** and an audible alarm is generated.

Thereafter, displays and LEDs go dark and audible alarm stops.

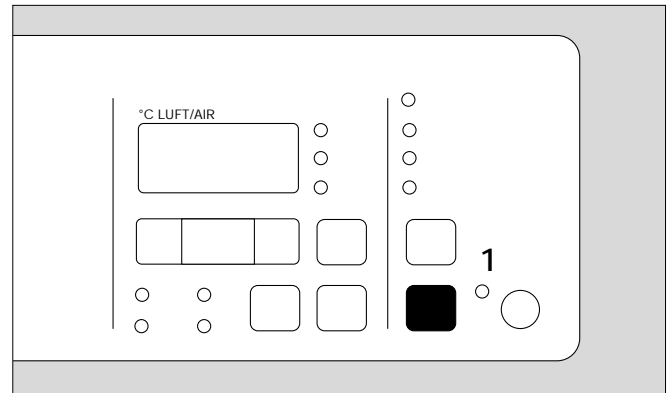
After approximately another 2 seconds, the original displays for measured and set values reappear.

NOTE: This check can also be carried out during operation and does not alter any of the settings.

- Perform check at least once daily.

If there is a defect:

- Call DrägerService.



WARNING !

The incubator is ready for operation only when all checks have been performed successfully.

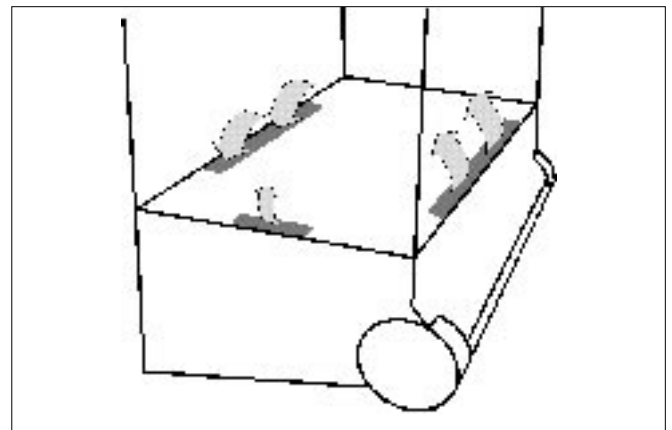
WARNING !

Do not use cellular or cordless phones within 33 feet (10 m) of the equipment.

Wireless phones may cause malfunction in electromedical equipment.

CAUTION !

Never block or obstruct the air vents in the incubator base-element, e.g. with blankets. This may cause burns or cooling of the baby.



Operation

General Precautions During Patient Care

Warm-up time

Allow adequate time for the incubator to warm up before placing a baby inside (about 35 minutes).

Recommendation: operate incubator in standby.

Note: Warm-up time depends on the ambient temperature.

Incubator temperature control system

- Desired temperature increases occur quickly thanks to powerful heater.
- Temperature drops slowly due to good thermal insulation.

WARNING !

Additional external heat sources, such as sunlight, heat lamps, spotlamps, heated pads, etc. should be avoided. They increase air temperature inside the incubator in an uncontrolled fashion.

Considerations when setting incubator air temperature

The baby experiences minimal heat loss

- by convection because of low air speed across bed
- by conduction through the mattress
- by evaporation when high humidity setting is chosen.

WARNING !

Always check baby's core temperature at regular intervals!

Reducing incubator temperature

The time it takes for the incubator to cool off is a design feature, it can be shortened when necessary by:

- reducing the outside (room) temperature (where possible),
- reducing the incubator setting for humidity.
- switch off external heat sources, (when possible).

The rate of cooling is **not** accelerated by:

- setting the air temperature to a lower value than is actually required.

In **urgent** cases: open front door or hand ports.

WARNING !

Never leave baby unattended when front door or hand ports are open to avoid any risk of a patient falling out of the incubator.

Fire hazards associated with the use of oxygen

WARNING !

Fire Hazard!

Keep matches, lighted cigarettes, and all other sources of ignition out of the room in which the incubator is located. Textiles, oils, and other combustibles are easily ignited and burn with great intensity in an atmosphere enriched with oxygen.

All oxygen valves, connections, and seals must be kept free from oil and grease. - Open valves slowly.

Do not use any electrical equipment inside the incubator other than equipment and instruments expressly designed and approved for use in incubators.

Note: The inner walls may be taken out to increase radiation heat loss. This may be necessary to keep bigger babies at the desired temperature and prevent them from overheating.

Physiological risks associated with the use of oxygen

WARNING !

Oxygen Concentration

The atmosphere inside the incubator should only be enriched with oxygen by or on the order of a physician or respiratory therapist.

It is absolutely essential that elevated oxygen concentrations are selected on the basis of arterially measured oxygen partial pressure in the blood of the baby. This is the only way to minimize the risk of both hyperoxemia, which might cause, above all, retrolenta fibroplasia, and hypoxemia which might contribute to intraventricular hemorrhage and damage to the baby's brain.

Breathing gas temperature

During ventilation, always consider the possibility of additional heat transfer by circulating, heated air to ventilator circuits routed inside the hood. It is therefore necessary to continuously monitor breathing gas temperature.

Considerations during phototherapy

Absorption of light through a baby's skin will supply heat which may increase the baby's core temperature.

Therefore:

- Decrease air temperature setting about 2 °C 15 minutes prior to phototherapy.
- Decrease the set value for humidity.
- Room temperature should be at least 3 °C below the air temperature of the incubator.

NOTE: Some phototherapy lights, particularly those without a built-in fan, may cause even greater heating of the incubator and, therefore, require even lower ambient room temperatures.

WARNING !

The core temperature of the baby must be monitored particularly carefully during phototherapy.

WARNING !

Do not cover phototherapy lights or incubator hood with blankets, aluminum foil, or other materials intended to boost the effect of phototherapy. This would cause build-up of heat since the incubator would not be cooled by ambient air, a factor absolutely essential for operation. – Danger of overheating patient!

Preventing high noise levels

Excessive noise for the patient may be caused by:

- use of head boxes and/or delivery of pressurized gases,
- objects dropped on the incubator hood.

Therefore:

- Do not place anything on the incubator hood.

Electrical safety

WARNING !

This device is to be used only in rooms with line power installations complying with national safety standards for hospital patient rooms. (e.g., IEC 601.1, "Safety of Medical Equipment).

To maintain grounding integrity, connect only to a "hospital grade" receptacle.

To reduce risk of electric shock, do not remove cover

Always disconnect supply before servicing.

Use only electromedical accessories complying with CSA 601-1, IEC 601-1, UL 2601, EN 60601-1 or DIN VDE 0750, part 1, UL 544, AAMI, or other local or state regulations governing the use of electromedical equipment in hospitals.

Starting Operation

Wait for incubator warm-up

Wait for about 35 minutes before using incubator.

- Heat incubator in "air temperature control" operating mode.

In order to keep incubator ready for use without delay:

- Operate incubator in standby:
Set air temperature between 32 °C and 36 °C
and, set humidity to 0.

Water Supply

Before placing baby in the incubator:

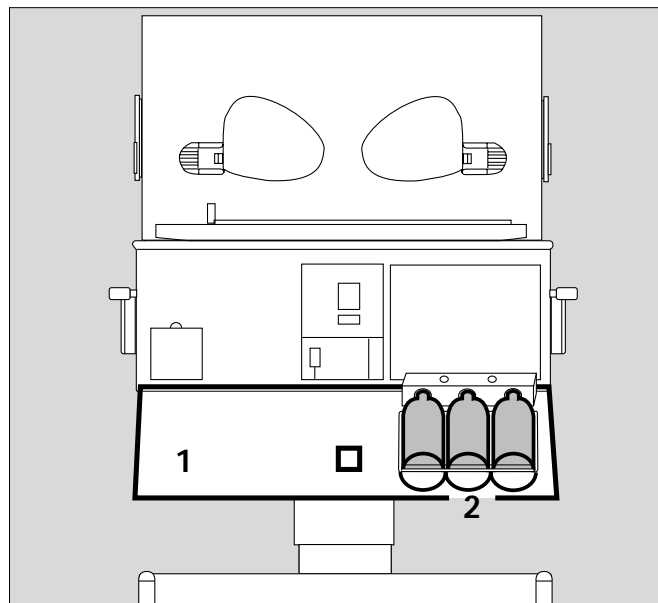
- 1 Open and lower rear panel.
- 2 Remove empty water bottles from receptacle and replace with three full bottles.
Lift rear panel and close it.

- If your incubator 8000 IC is equipped with the automatic water feed system change the attached water bag.

NOTE: If an automatic water feed system is used, observe the operators manual of the automatic water feed system for operating and installation instructions.

WARNING !

Use only pure, distilled or demineralized water. Do not add bactericidal agents.



Adjust working height

- Change incubator height as needed and described in the previous chapter.

Placing a baby in the incubator

- Open front door (top and bottom part) and pull bed out.
- Put baby on mattress and slide bed back in position.
- Close the front door and check that all latches are properly engaged. Check hand port doors for proper closure.
- Keep bed horizontal or tilt, as required.

Using Air Temperature Control

WARNING !

Always measure baby's core temperature at regular intervals!

1 Push power switch in – until it engages = ON.



2 Green LED is lit.

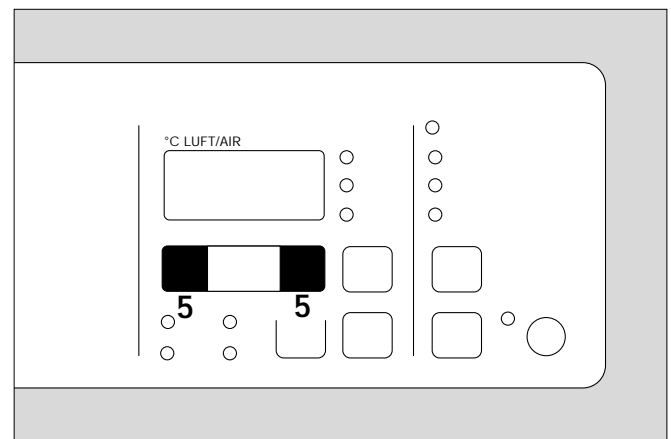
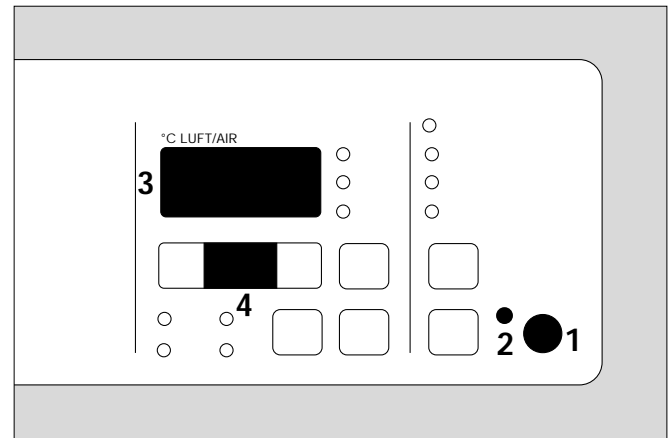
- Wait for self-test to complete. Incubator will then switch to "air temperature control" mode.

NOTE: The air temperature control system is always automatically activated at power-up.


3 This display will now alternate between measured value for air temperature and the word **SEt**.


4 Flashing display of set value air temperature, default value is 33.0 °C.



5 Press  or  key briefly to select this set value. The display lights remain continuously lit.


**Setting values in range between 28 °C and 37 °C**

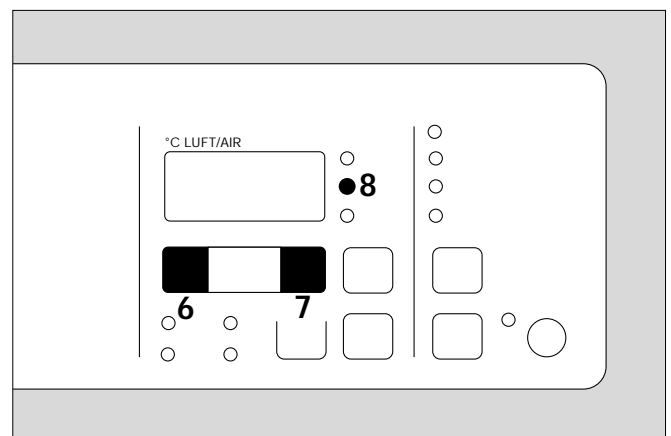
The set value can be changed in 0.1 °C steps.

6 Press  key – set value is decreased,

7 Press  key – set value is increased.

- Press  or  keys until set value desired is reached.

8 Green LED  flashing – incubator is indicating that heater is active.



Extending Temperature Range From 37 °C to 39 °C

WARNING !



Temperatures above 37 °C may only be used on the order of a physician.

In this mode of operation, the baby's temperature must be monitored especially carefully.

1 Press unlocking button 

2 yellow indicator LED >37 °C lights up.

NOTE: This alters the temperature threshold for heater cut-off in the event of overtemperature from 38 °C to 40 °C.

3 Keep  or  key pressed until the value desired is displayed.

NOTE: Set value between 37.1 °C and 39 °C within the next minute.

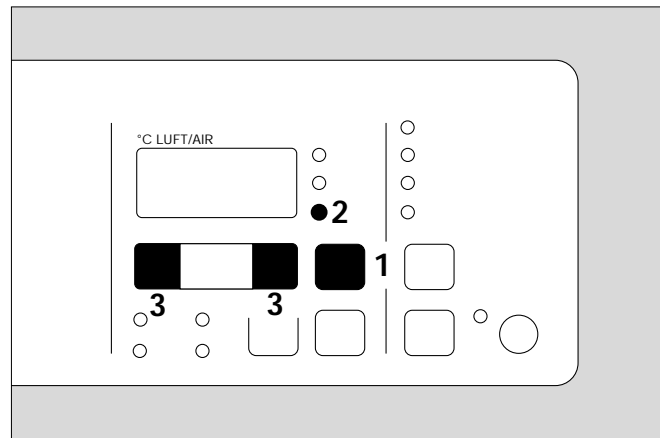
If extended range settings are not used within one minute

- control LED >37 °C will go off,
- blocking of extended temperature range will be reactivated,
- the threshold for overtemperature will be reset to 38 °C.

Using a set value below 37 °C after use of the extended range will also automatically cancel range extension.

NOTE: In case the incubator temperature is still above 38°C when leaving the extended range, the overtemperature alarm (see next section Alarms) would be triggered.

To avoid this alarm: First set value to 37.1 °C and allow incubator to cool below 38 °C. Then set desired value below 37 °C.



Alarms

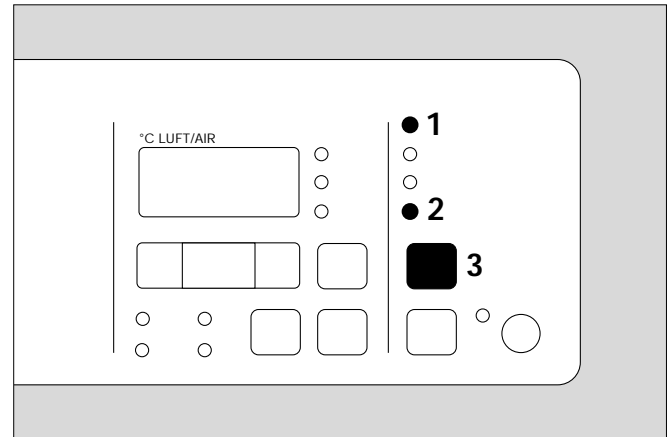
Central Alarm

1 Red LED Alarm flashes and audible alarm will occur.

The intermittent audible alarm can be silenced for 10 minutes:

2 Press  key,

3 yellow LED  will be lit.



If there is a deviation of more than ± 1.5 °C between set value for air temperature and its measured value:

Red LED Alarm and

4 red LED ± 1.5 °C flashes,

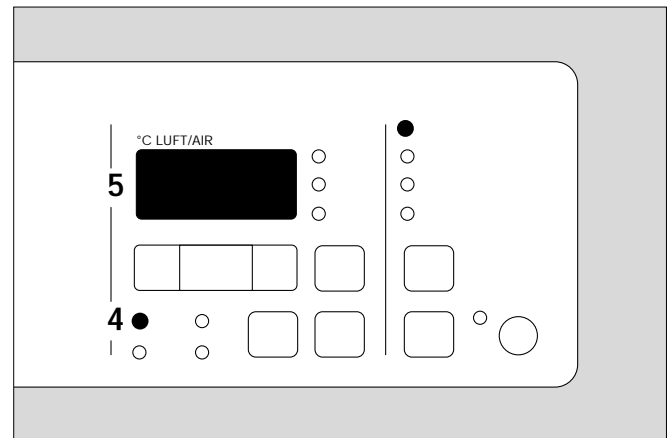
5 flashing display and intermittent audible alarm.

When measured value is again within ± 1.5 °C of the set temperature,


● LED ± 1.5 °C will go out and audible alarm will stop.

NOTE: When the incubator is switched on, the audible alarm is automatically muted for 30 minutes during warm-up.

4 red ± 1.5 °C LED and
yellow  LED are lit.




If the air temperature is above 38 °C (or above 40 °C, respectively, while using extended range):

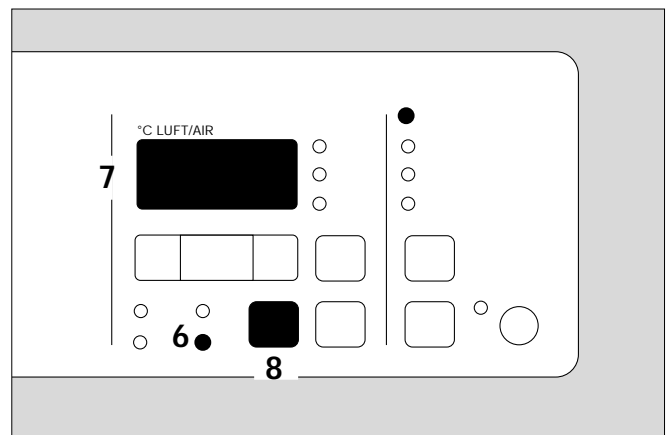
6 Red LED  and
red LED Alarm are flashing,

7 flashing display and intermittent audible alarm.




The audible alarm can be silenced for 10 minutes.

Once the air temperature has fallen below the alarm threshold again:

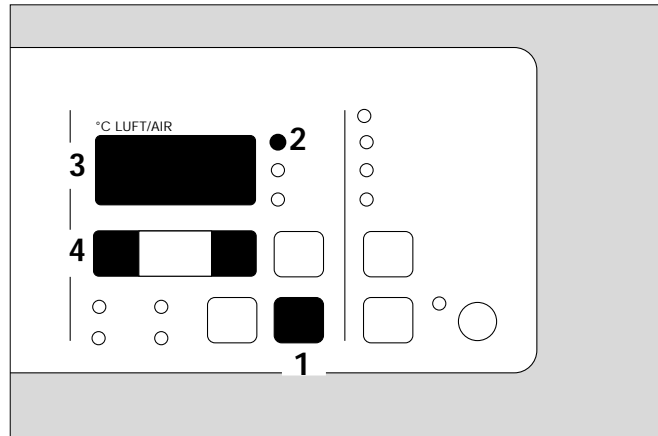
8 Press  key to acknowledge alarm and to reset heater.



To switch back to "air temperature control" with the module "skin temperature control" installed and in operation:

- 1 Press  key,
- 2 green LED **Control** is lit.
"air temperature control" mode is reactivated.
- 3 The display shows alternately the measured air temperature and the letters SET.
- 4 Confirm temperature with the buttons  or  or set desired value.

NOTE: The default for air temperature set value will be the last value the system had attempted to maintain.



Using Skin Temperature Control

WARNING !

Skin temperature control must not be used with babies in shock. Because of reduced peripheral bloodflow the skin temperature of these babies occasionally lies well below the core body temperature. Using a skin temperature control system could lead to overheating. We recommend operating the incubator in air temperature control mode when caring for patients with such conditions.

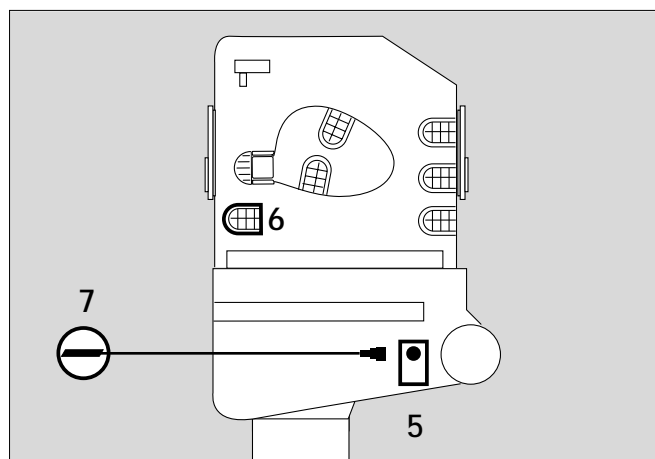
WARNING !

Measure core temperature at regular intervals when using skin temperature control.

Connecting skin temperature sensor

Yellow Plug is for conventional skin control (tummy), white is peripheral temperature (toe)

- 5 Plug sensor cable in the receptacle (yellow) on the left side of the incubator.
- 6 Route sensor cable through one of the U-grommets in the side of the hood
- 7 Remove protection foil from the sensor.



WARNING !

Always verify that single use sensor probe is specified and approved for use with Dräger Series 8000 incubators.

- Attach sensor tip to skin at an appropriate measuring point using a skin probe adhesive cover pad (if not part of the sensor itself).
- Keep sensor cable in place with adhesive tape as necessary to provide strain relief.

WARNING !

The sensor probe must never be placed under the baby. it would be measuring and attempting to control core temperature rather than skin temperature in this case.

- Check regularly that the skin temperature sensor is properly fixed to the baby's skin.

WARNING !

A displaced or detached skin temperature sensor would be measuring air temperature so that the baby could become overheated (the temperature of the air in the incubator would, however, not exceed 39 °C).

WARNING !

Do not use skin temperature sensors to rectally measure core temperature.

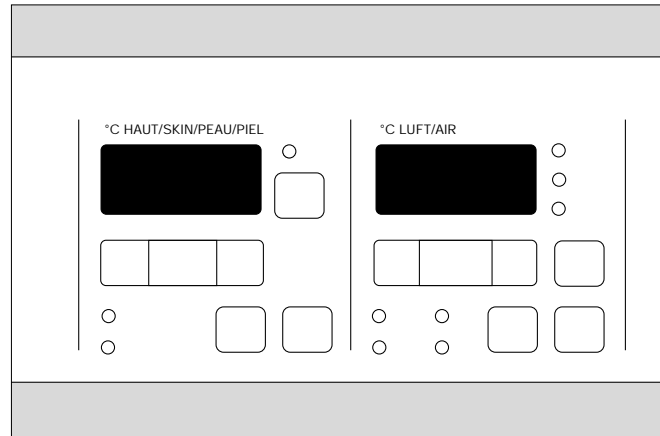
Operation

Using Skin Temperature Control

Activating skin temperature control

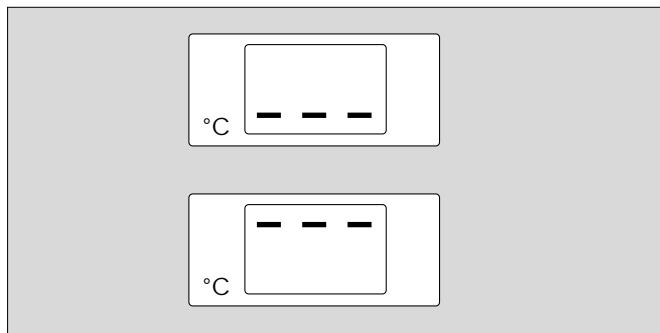
NOTE: When a skin temperature sensor is connected while "air temperature control" mode is active, the measured skin temperature is still displayed.

However, it does not affect the incubator temperature, which is controlled only by the set air temperature.



When the temperature falls outside the measuring range of 30 °C to 42 °C:


- 3 dashes in the bottom of the display = temperature below 30 °C
- 3 dashes in the top of the display = temperature above 42 °C

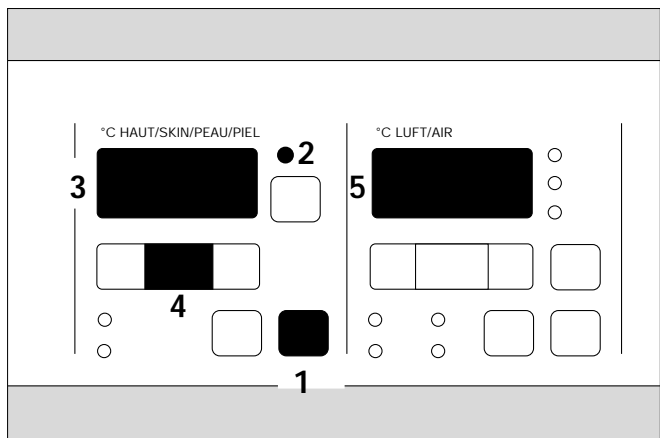


Activating skin temperature control

NOTE: Allow at least 5 minutes for the skin temperature sensor to reach the baby's temperature. Do not switch to skin control when the temperature is not constant.

When value displayed remains constant,



- 1 Press  key,
- 2 green LED **Control** lights up, skin temperature control is now active.
- 3 The large display alternates between the measured value of skin temperature and the word **SEt**.
- 4 The small display for skin temperature set values is flashing.
- 5 The measured value for air temperature continues to be displayed.

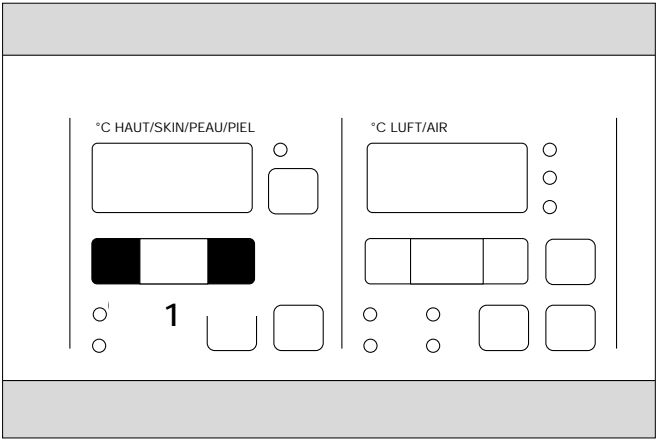


The incubator offers different default values, depending on the situation.



Status	Default
Set value for air temperature not confirmed; defective or disconnected sensor	36.3 °C
Measured skin temperature was below 35 °C when switched to skin mode	35 °C
Measured skin temperature was between 35 °C and 37 °C when switched to skin mode	measured skin temperature is selected
Measured skin temperature above 37 °C when switched to skin mode	37 °C

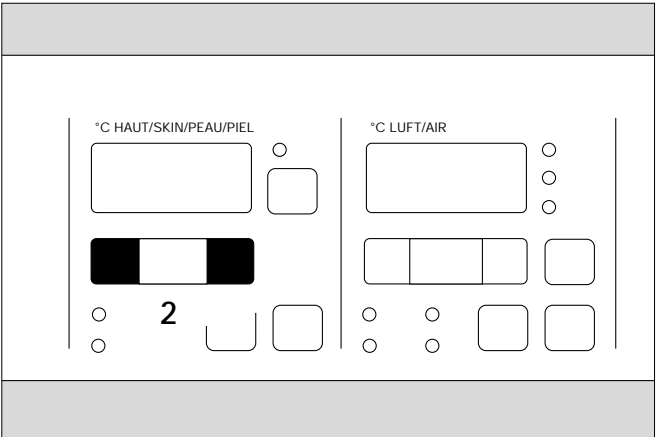
Confirming set value:

- 1 Press  or  key briefly, the display for set values will stop flashing.



Setting values in range of 35 °C to 37 °C

- 2 Press  or  key until the set value desired is displayed.



Always allow enough time to reach steady state

Differences between set and measured value of skin temperature are responsible for controlling air temperature inside the incubator between a minimum of 28 °C and a maximum of 39 °C.

When skin temperature is set to a value higher than the measured skin temperature (skin too cold), air temperature in the incubator is increased.

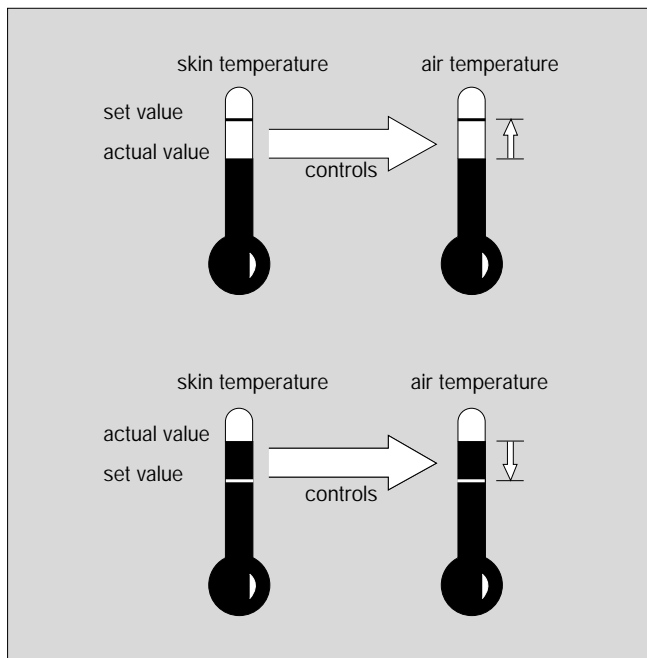
When skin temperature is set to a value lower than the measured skin temperature (skin too warm), air temperature in the incubator is decreased.

The length of time during which there has been a difference between set and measured value of skin temperature also influences changes of incubator air temperature in the respective direction.


The patient's skin temperature can change suddenly, as a result of the baby being fed or being handled, so that deviations of a few tenths of a degree are quite normal.

Therefore:

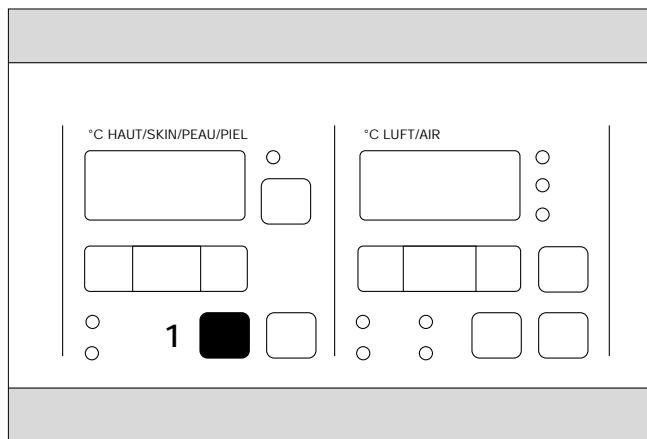
Do not change set value for skin temperature unnecessarily unless core temperature needs to be corrected.



Check function during operation:

- 1 Press  key – the simulated temperature value should read as 36 ± 0.1 °C.

Check daily.



Important Note:



Skin temperature control should be used when the baby is stable and has not been undergone any procedures, such as taking a x-ray or turning. Which mode of temperature control is used has to be decided case by case and can not be generally recommended by the manufacturer of the incubator.

Alarms


In case of **deviations greater or equal than $\pm 1.0\text{ }^{\circ}\text{C}$** between set and measured value of skin temperature:

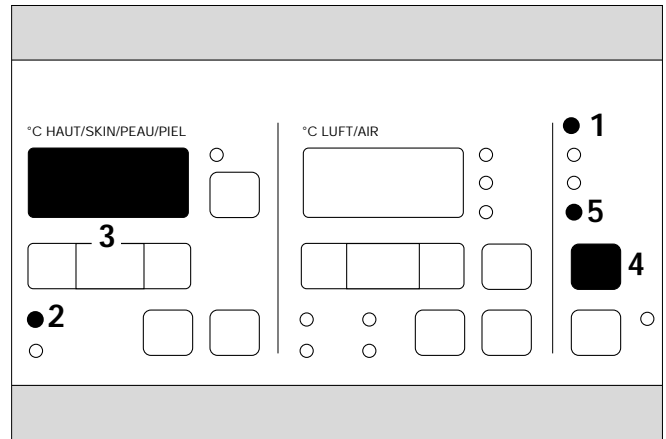
- 1 Red LED Alarm and
- 2 Red LED $\pm 1.0\text{ }^{\circ}\text{C}$ flashing,
- 3 display flashing accompanied by intermittent audible alarm.

The audible alarm can be silenced for 10 minutes:

- 4 Press  button.
- 5 Yellow LED  lights up.

When measured value is again within less $\pm 1.0\text{ }^{\circ}\text{C}$ of the set value:

- LED $\pm 1.0\text{ }^{\circ}\text{C}$ and
- 1 LED Alarm goes out, audible alarm stops.
- 5 Yellow LED  goes out.



If the sensor plug is disconnected or sensor is defective:

- 6 Display of 3 dashes in center of display.

After 15 seconds:



intermittent audible alarm starts

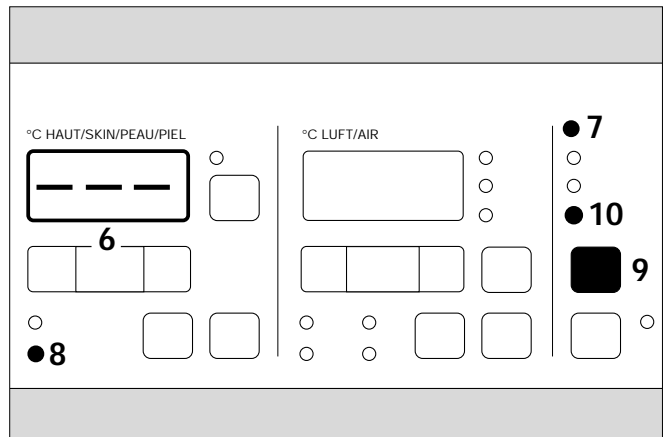
- 6 Display of 3 flashing dashes in center of display.
- 7 Red LED Alarm flashing.
- 8 Red LED **Sensor** flashing.

In this case:

- Connect sensor without delay or replace sensor.

The audible alarm can be silenced for 10 minutes:

- 9 Press  button.
- 10 Yellow LED  lights up.
- 8 Red LED Alarm lights up.

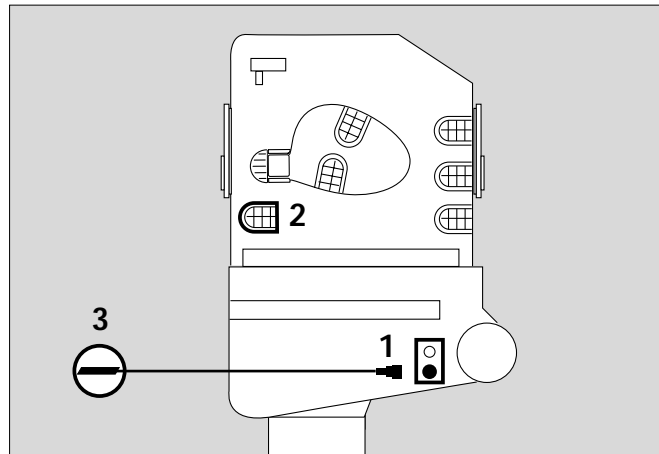


Thermo Monitoring with ThermoView




Necessary for Thermo Monitoring:

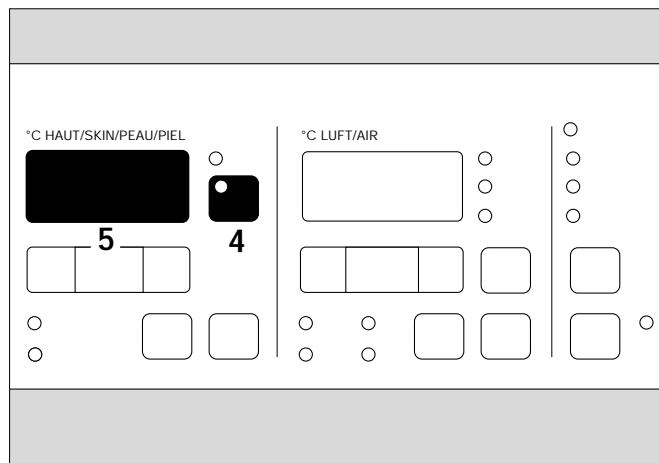
- Second receptacle for peripheral skin temperature sensor, white plug!
- Optional BabyLink interface board with ThermoView Software and BabyLink Interface cable
- Personal computer, see specifications in ThermoView Operators Manual, or
- Interface to patient monitor system, please contact the manufacturer of your patient monitor for information.

- 1 Connect peripheral skin temperature sensor to the lower socket on the left side of the incubator base.
 - 2 Route the cable through one of the U grommets in the hood.
 - 3 Remove protection foil from the sensor.
Place sensor securely on extremities of the patient, preferable on the foot.
- Secure the sensor cable with an adhesive strip.
 - Connect the PC with the MediCable to the serial interface port of the BabyLink board in the incubator. Follow instruction for Use for the BabyLink.



Display Peripheral Skin Temperature on Incubator without ThermoView

- 4 Press  button continuously for a maximum time of 30 seconds. The yellow LED on the button lights.
 - 5 The peripheral skin temperature is displayed as long as the button is pressed.
- 4 Stop pressing the  button.
- The yellow LED on the button  shuts off and
 - 5 the skin temperature measured by the primary sensor will be displayed again.



NOTE: The measurement of the peripheral temperature does not affect the temperature control of the incubator. Both skin temperatures (tummy and toe) can be monitored when the incubator is operated in air mode.

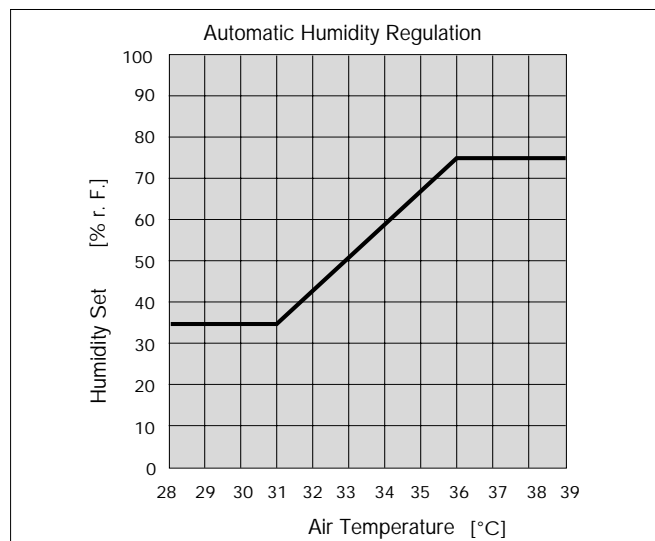
Using Humidity Control

Air temperature and relative humidity are interdependent. If the setting of the incubator air temperature changes, the incubator adjusts humidifier output to keep relative humidity inside the incubator constant despite the changed conditions. A level of up to 85 % relative humidity can be achieved.

The relative humidity can be controlled in the automatic mode or in the manual mode.

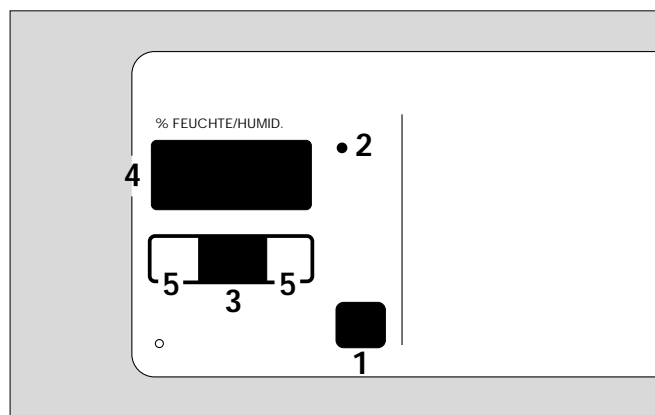
In the **manual mode** a set value for the relative humidity can be entered with the buttons \uparrow or \downarrow in the range of 35 to 85 % relative humidity.

In the automatic mode the microprocessor calculates the set value for the relative humidity depending on the present air temperature in the incubator.



Activating humidity control in automatic mode

- 1 Press \square button,
- 2 green module-LED **Control** illuminates and
- 3 the display shows **Aut** (Automatic).
- 4 Relative humidity inside the incubator is shown alternately with **SEt**.
- 5 Press short \uparrow or \downarrow button to confirm the set value calculated by the system.
- 3 the display shows **Aut** continuously = **automatic mode** is active.
- 4 display of measured relative humidity in incubator.

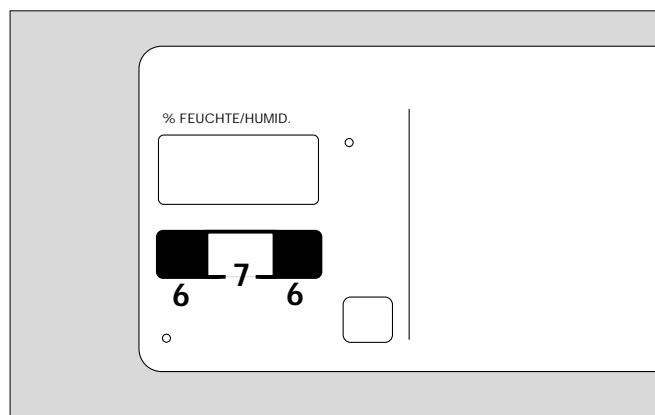


Activating humidity control in manual mode



- 6 Press short \uparrow or \downarrow again to activate the manual mode.
- 7 the humidity set value calculated by the system is shown in the display.
- 6 Set the desired humidity value with the buttons \uparrow or \downarrow

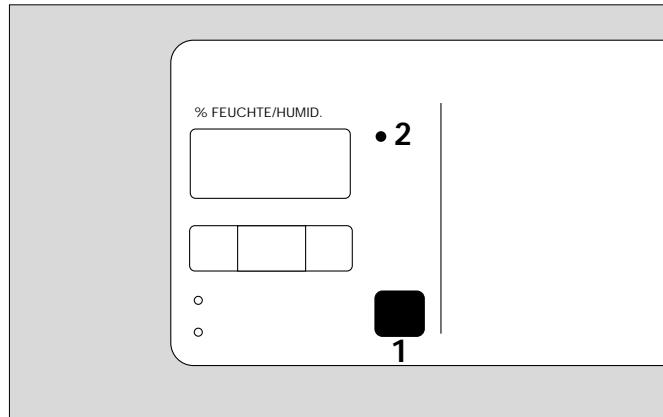
If humidity is set higher than 70 % condensation on the incubator walls can occur. Then:

- Decrease humidity set value, or
- increase ambient temperature, check that the incubator is not located close to an air conditioning outlet.



Switch from manual mode to automatic mode:



- 1 Press  button = Humidity module is switched off,
- 2 green LED Control goes out.
- 1 Press  button again = Humidity module is switched on in automatic mode.
- 2 Green led Control lights up.



Water supply alarm

- 3 Red LED alarm,
- 4 red LED H₂O and
- 4 the display flashes and intermittend audible alarm starts.
- change water bottles or water bag depending on which water feed system is used.

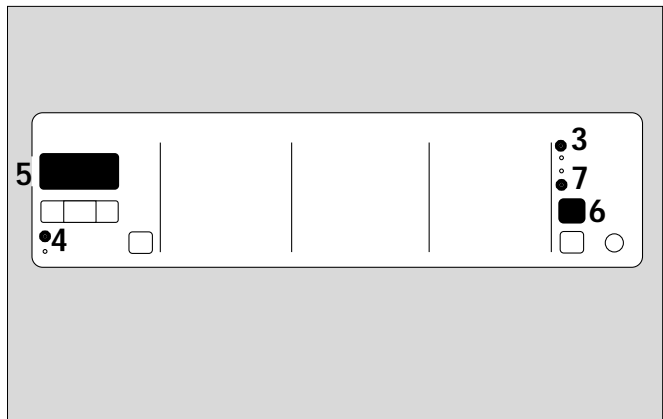
The intermittend audible alarm can be muted for 10 minutes:

- 5 Press  button,
- 6 yellow LED  and
- 7 red LED **alarm** are lit.


As soon as the cause for the alarm are eliminated:

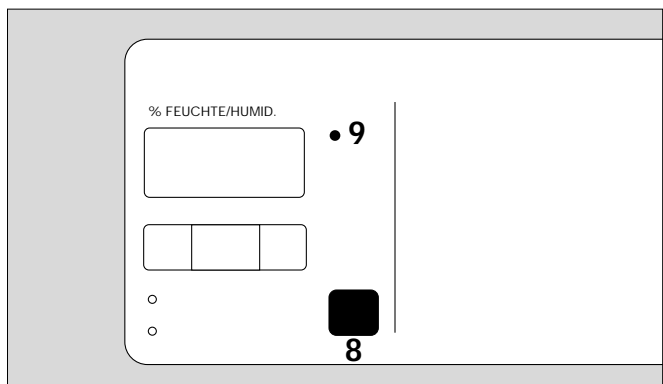
- LEDs go out, audible alarm is silenced.

More about alarms in the chapter Troubleshooting.



Switch off Humidity Control

- 8 Press  button = Humidity module is switched off,
- 9 green LED Control goes out.



Using Oxygen


WARNING !

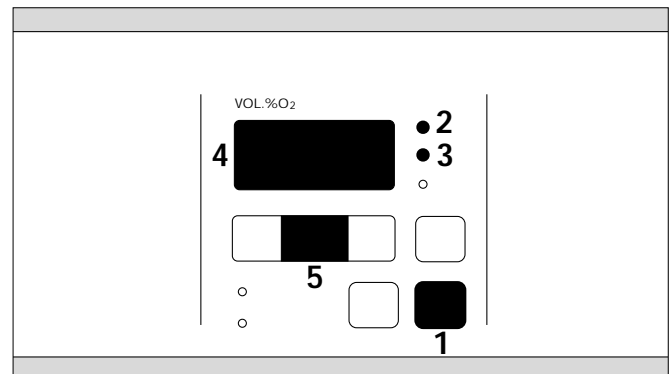
Oxygen Concentration

The atmosphere inside the incubator should only be enriched with oxygen by or on the order of a physician or respiratory therapist. Always monitor oxygen concentration!

WARNING !

It is absolutely essential that elevated oxygen concentrations are selected on the basis of arterially measured oxygen partial pressure in the blood of the baby. This is the only way of minimizing the risk of both hyperoxemia, which might cause, above all, retrolenta fibroplasia, and hypoxemia which might contribute to intraventricular hemorrhage and damage to the baby's brain.

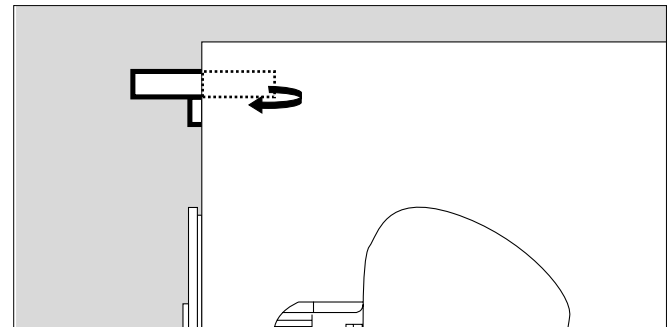
- Connect the incubator with a high pressure oxygen hose to the oxygen outlet of the pipeline system.
- 1 Press  button,
- 2 Green module-LED **Control** illuminates.
- 3 Yellow LED **Cal.** and
- 4 Display CAL flashes
- 5 The set value of »21« flashes in the display
- Calibrate O₂ sensor immediately, otherwise sensor alarm.




Calibration of oxygen sensors

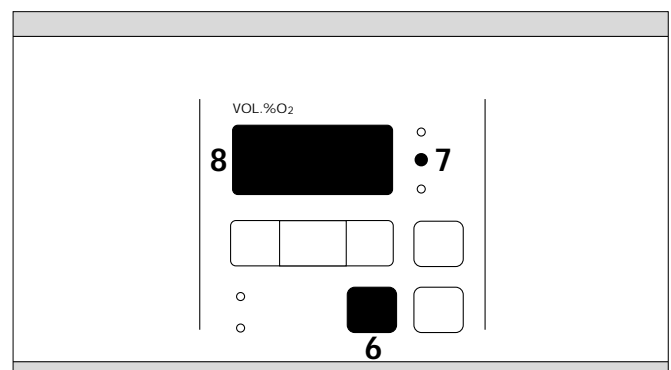
Calibrate oxygen sensor when starting with oxygen control and every 24 hours if used continuously.

- Swing sensor module all the way out from the incubator hood. Do not use force!



Within one minute, otherwise sensor alarm:

- 6 Press  button,
- 7 yellow LED **Cal.** illuminates.
- 8 During calibration the display flashes alternately between **CAL** and "---".





Operation



Setting oxygen concentration
higher than 40 % O₂

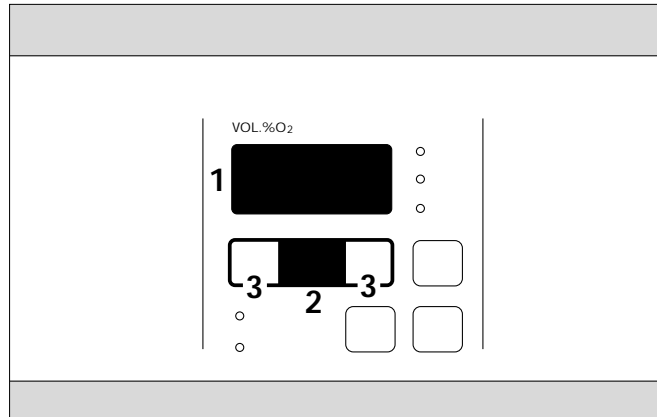
Alarms

After about 45 to 135 seconds calibration is complete.




- 1 Display shows alternately CAL and 21 Vol.% O₂.
- Swing sensor module back to its operating position inside the hood, otherwise sensor alarm.
- 2 The set value »21« flashes in display.
- 3 Press short  or  to confirm the calibration and the set value for oxygen concentration.

Or

- 3 Press  or  button, until the desired set value is reached (21 to 40 Vol.% O₂)
- 1 The oxygen concentration inside the incubator hood is now measured and the actual value displayed.

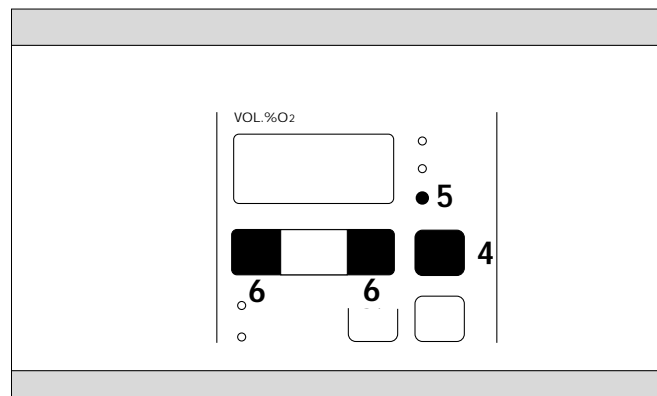


Setting oxygen concentration higher than 40 % O₂

- 4 Press button ,
- 5 yellow indicator-LED >40 % will light.
- 6 Press  or  button, until the desired value is displayed.

If the setting is reduced to values under 40 Vol.% O₂:

- the extension of the range of settings is automatically canceled.





Alarms


If a deviation of more than ± 5 % between the setting and the measurement occurs:

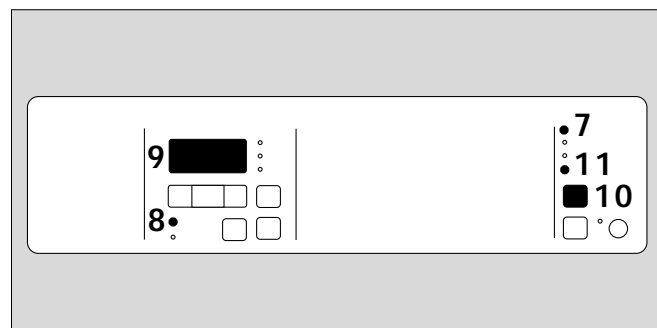
- 7 Red LED alarm and
- 8 red LED ± 5 Vol.% are flashing,
- 9 Display flashes and intermittent audible alarm starts.

The intermittent audible alarm can be muted for 10 minutes:

- 10 Press  button,
- 11 yellow LED  and
- 7 red LED alarm will light.

When the deviation is again less than ± 5 % :

- LED ± 5 Vol.% and LED alarm go out.
The audible alarm is silenced.
- yellow LED  goes out.



Alarms

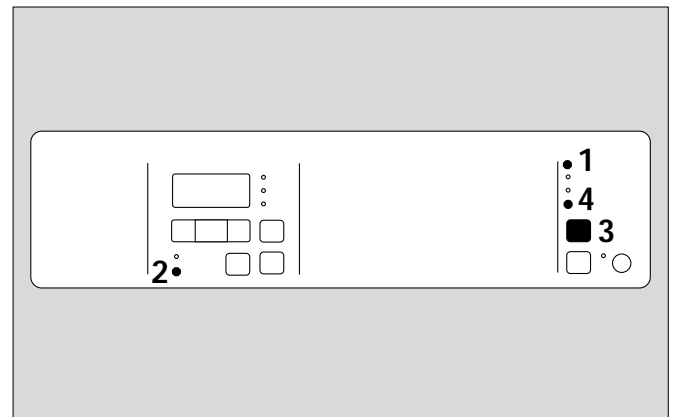
Switch off O2-Control

In the case of a pulled sensor module plug, a swung out sensor module, or a defect sensor:



- 1 Red LED **alarm** will light and
- 2 red alarm-LED **sensor** will light, intermittend audible alarm starts.

Then:

- Immediately connect sensor module, swing back sensor module, or change oxygen sensor.




The intermittend audible alarm can be silenced for 10 minutes:

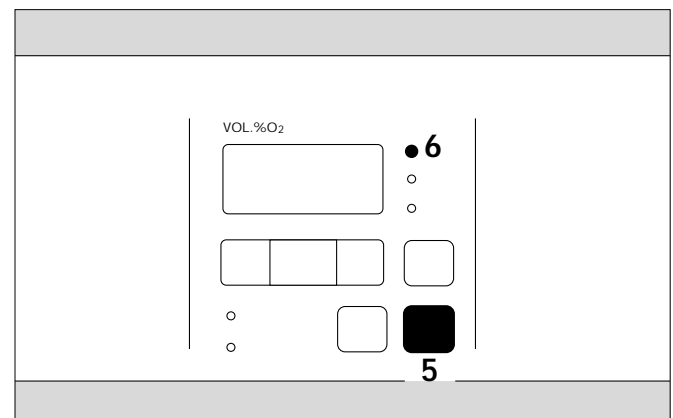
- 3 Press  button,
- 4 LED  and
- 1 LED **alarm** will still light.

More about alarms in the chapter Troubleshooting.

Switch off O2-Control

- If any malfunction occurs in the oxygen control module, (Display **Err**),
- if there is a sensor alarm which can not be canceled,
- when even after decreasing the O2 concentraion the deviation to the setting higher that 5 % is,
- when oxygen therapy is finished.

- 5 Press  button,
- 6 green module-LED **Control** does not light anymore.
- Disconnect the O2 supply from the incubator.



If the patient still requires an increased oxygen concentration:

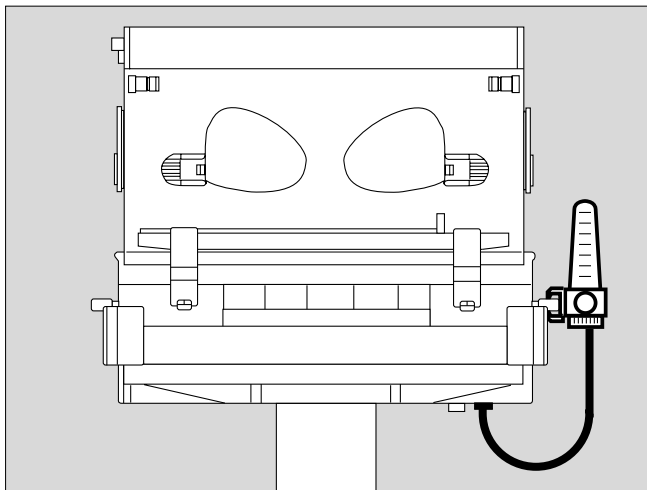
- Refer to next chapter Oxygen administration without the O2 servo control module,

Using oxygen without the oxygen control module

- Monitor O₂ concentration. Always use calibrated O₂ analyzer according to its Operating Instructions.
- Supply oxygen from a medical gas pipeline system or oxygen tank via an O₂ flowmeter.
- Adjust O₂ supply at flowmeter to required concentration.

Guideline for flow settings:

Desired O ₂ conc. %	25	30	35	40	45	50	55	60
O ₂ flow L/min	2.0	4.5	6.5	9.0	11.5	14	16.5	19



Care

Clean and disinfect incubator after each patient, or at least once a week. Perform all disinfection procedures according to established hospital procedures as well as to the following additional instructions.

WARNING !

Always follow established hospital procedures for handling equipment contaminated with bodily fluids.

Before any cleaning procedures, the incubator must first be partially disassembled. For cleaning and disinfecting of accessories, see their respective Operating Instructions.

Disassembly

- Switch off the device(s), pull power plug(s), and turn off all pressurized gases that may be in use.

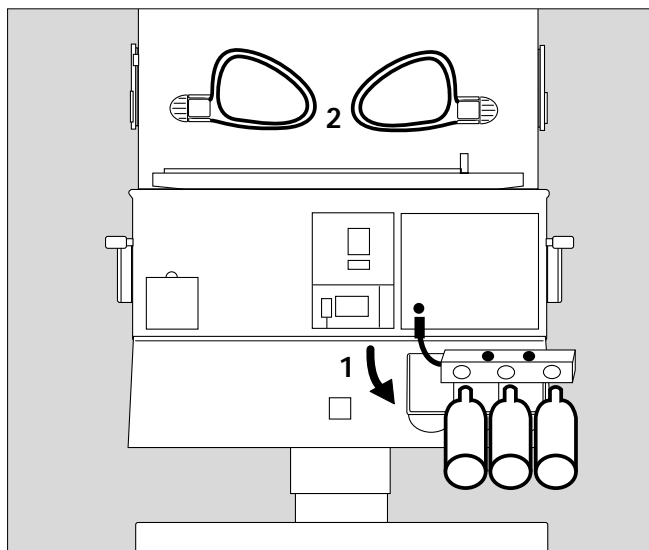
WARNING !

Always disconnect from power before cleaning and disinfecting.

- Remove all accessories.

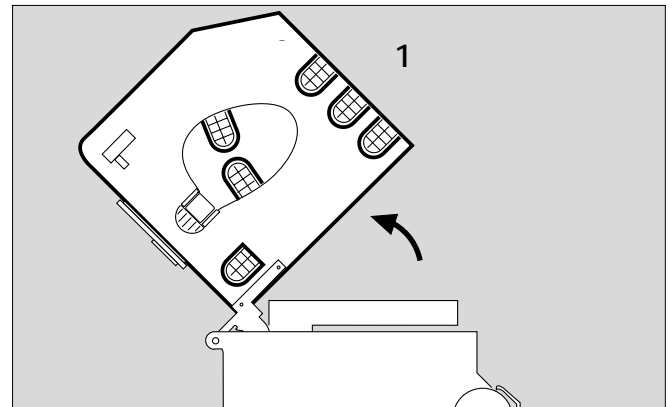
Emptying water reservoir

- Open and lower rear panel.
 - Remove all three water bottles.
 - Unscrew the two white plastic nuts.
- 1 Remove container by lifting it off the two bolts. Drain water, observing established hospital procedures.
 - Hold hose by cuff and detach from connector on heater.
- 2 Open hand ports.
 - Remove seals from hand port openings and close hand ports again.



If skin temperature control option has been used:

- Disconnect skin temperature sensor.
 - Open front door.
 - Remove skin temperature sensor from inside incubator.
- 1 Remove all silicone U-grommets.
- Tilt incubator hood back as far as it will go. Do not use force or push the hood further back.



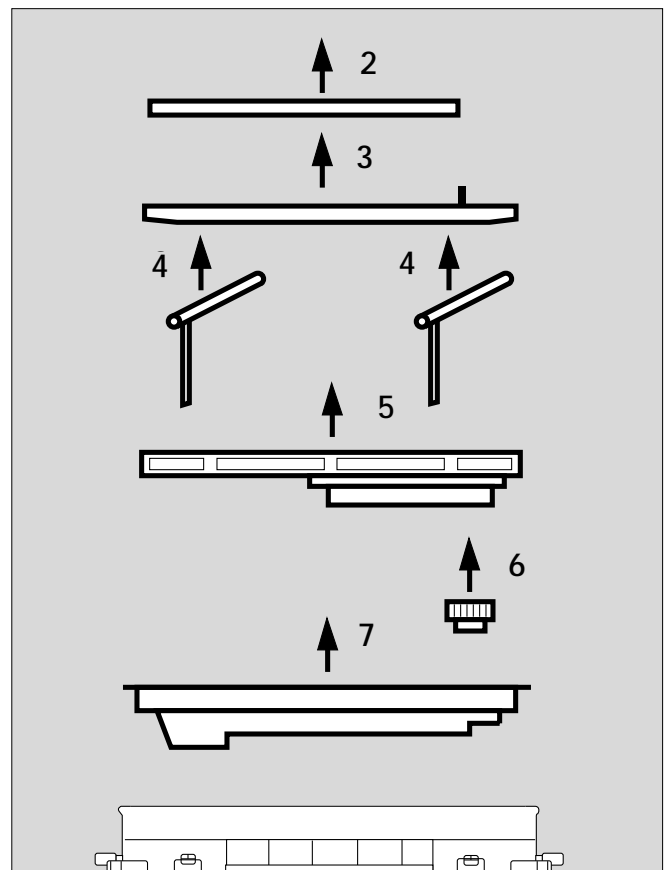
- 2 Remove mattress from bed.
- 3 Lift off bed. Undo screw on ventilator circuit support arm and remove flexible support arm.
- 4 Pull bed support brackets up and out.
- 5 Remove base cover panel.

WARNING !

Danger of burn injury

The exposed heater surface will still be very hot after operation. It may take up to one hour for the temperature to drop to 70 °C (158 °F) with the incubator closed.

- 6 Remove fan.
- 7 Remove trough.



Cleaning / Disinfecting / Sterilizing

CAUTION !

Certain components of the incubator consist of materials that are sensitive to certain organic solvents sometimes used for cleaning and disinfecting (e.g., alcohols, phenols, halogen releasing compounds, oxygen releasing compounds, strong organic acids, etc.). Exposure to such substances may cause damage that is not always immediately recognized. Do not sterilize incubator and its components with ethylene oxide (EtO) or by exposure to UV radiation (may cause cracks in the PMMA (Plexiglas®) parts!

To prevent any damage, we recommend that only detergents and disinfectants are used that are compatible with the materials used in the incubator and its components and accessories, e.g. surface disinfectants on the basis of

- aldehydes, or
- quarternary ammonium compounds

Ensure that all disinfectants are registered with the U.S. Environmental Protection Agency for use as intended. Always follow the instruction labels specifically with respect to prescribed concentrations and the necessary exposure times.

Cleaning and Disinfection Procedures

- incubator body (inside and outside),
- hood (inside and outside), double walls
- front door flaps – inside walls folded down (inside and outside),
- mattress,
- bed,
- bed support brackets,
- base cover panel,
- trough
- Remove visible soiling with disposable cloth soaked in detergent.
- Wipe-disinfect surfaces.
- Allow exposure time for disinfection as prescribed, then wipe surfaces again with a clean, damp cloth and dry.

- Fan,
 - seals,
 - U-grommets,
 - water hose,
 - water bottle holder, or water feed system container.
 - Wash with detergent and rinse with clean water or autoclave.
 - Bath disinfect parts. Allow exposure time for disinfection as prescribed, then rinse with clear water and dry;
- or
- sterilize at 120 °C (248 °F).

CAUTION !

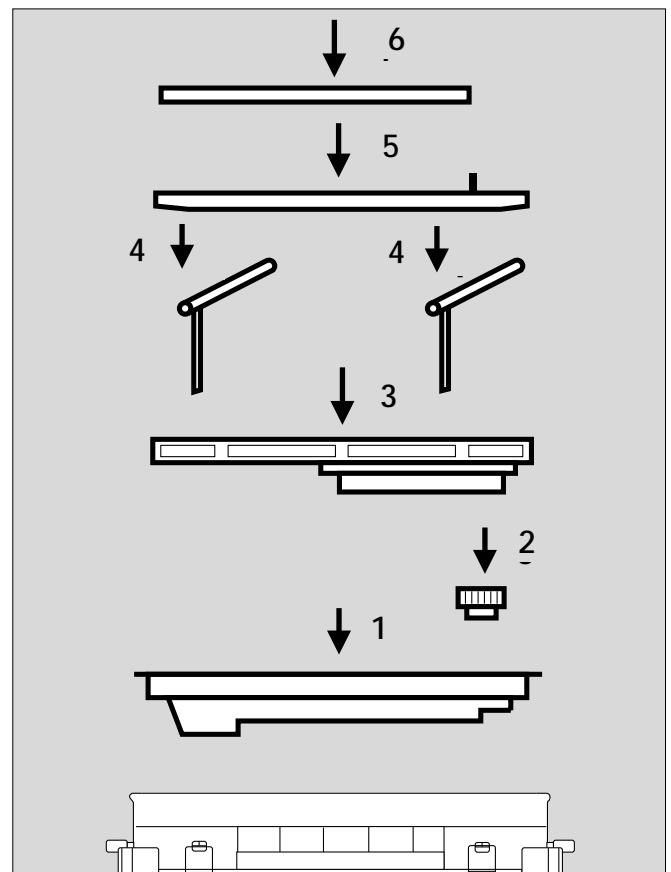
When disinfecting the (reusable) skin temperature probe, never immerse plug into the fluid.

Reassembly

Reassemble components in reverse order:

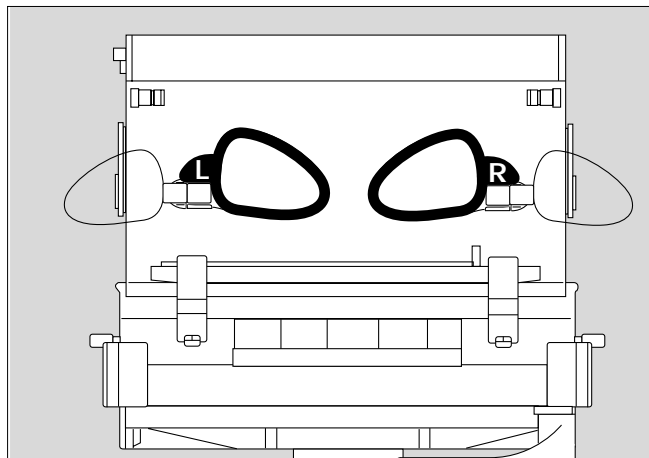
- 1 Fit trough.
- 2 Push fan wheel on axle.
- 3 Install base cover panel.
- 4 Install bed support brackets.
Check that the O-rings are correctly positioned on the support brackets. If not, push rings all the way back up or install new O-ring.
- 5 Lay bed on brackets. Watch for correct fit.
- 6 Fit mattress on bed.

Note: If a ScaleTronix or other bed scale is used, observe the operators manual of the scale for cleaning and installation instructions.



Installing hand port seals:

- Insert seal marked with an "L" on its molded tag into left opening
- Insert seal marked with an "R" on its molded tag into right opening
- Position molded tag of seal directly on top of hinge. Install with sealing lip (thin edge of profile) facing outside.



Care for Humidification System

Allow water heater to run dry:

- to disinfect the heater
 - to test that "water supply empty" alarm is working properly.
-
- Select humidity setting 85 %.
 - Allow heater to run until "water supply empty" alarm is triggered.
 - Red LED H₂O flashing,
 - Display flashing accompanied by intermittent audible alarm.
 - Switch off humidity control .

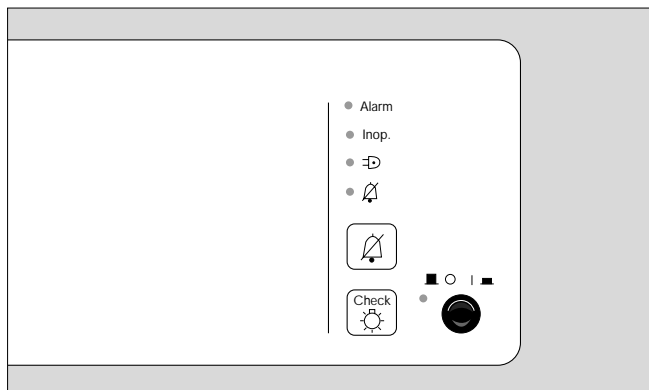
NOTE: When changing the water bottles or refilling the reservoir, the water boiler will cool down due to the fresh cold water. Expect the humidity in the incubator to drop for 10 to 25 minutes depending on the water temperature.



Before Reusing Incubator

- For "Checking Readiness for Operation", see page 34.
- Operate incubator in standby,
or
- switch off incubator and cover with dust cover, and store ready for use.

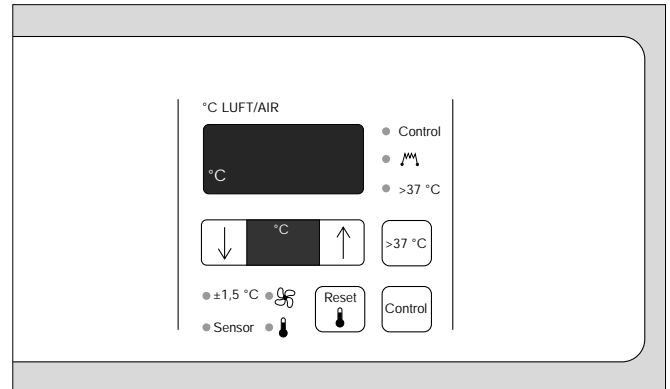
Troubleshooting




Master Switch Module



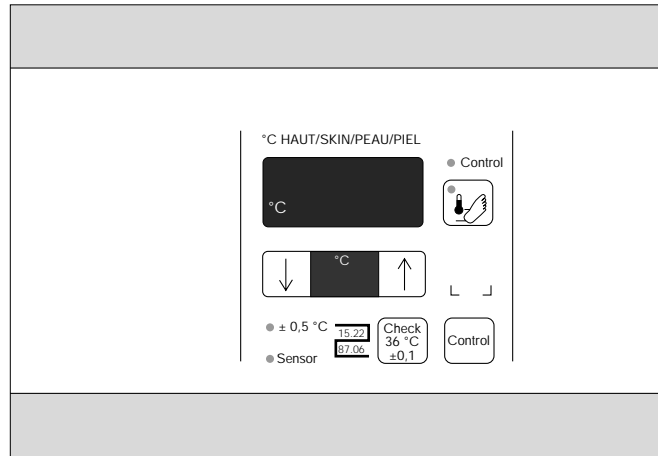
Problem/Message	Likely Causes	Remedy
Red LED Inop lit. Continuous audible alarm.	General defect in electronics.	Switch incubator off and on again. If Inop message is not repeated: press  key and reset values. If Inop message comes up again, incubator is out of order . Call DrägerService.
Red LED Inop lit. Continuous audible alarm, with Err displayed in a module.	Defect in specific module: Air temperature control module. Skin temperature control module/ humidity control module.	Switch off incubator. Incubator out of order. Call DrägerService. Switch off respective module. All other functions remain operational. Call DrägerService.
Red LED  is lit. Continuous audible alarm.	No power.	Check that power plug is connected to line power. Check that power is being supplied. Inform biomedical engineering and/or housekeeping.


Air Temperature Control Module



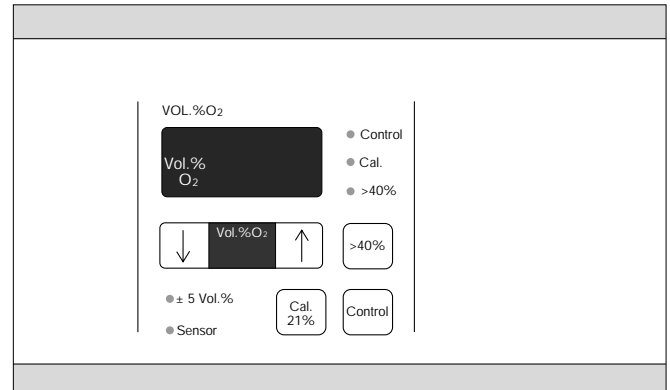
Problem/Message	Likely Causes	Remedy
LED ± 1.5 °C flashing. Display of measured value flashing. Intermittent audible alarm.	Air temperature in incubator is deviating from set value by more than ± 1.5 °C.	Temperature below set value: Close openings in hood and wait for incubator to warm up. Temperature above set value: Avoid additional heat sources (lamps, radiators, sunlight). Wait until incubator has cooled down.
Red LED  flashing. Measured value display flashing. Intermittent audible alarm.	Air temperature above 38 °C (for temperature setting in range up to 37 °C). or Air temperature above 40 °C (for temperature setting in range up to 37 °C).	Avoid additional heat sources (lamps, radiators, sunlight). Wait until incubator has cooled down. Press  key when temperature has dropped below the alarm threshold for overtemperature.
Red LED  flashing. Measured value display flashing. Continuous audible alarm.	Fan wheel not installed. Fan wheel not rotating or rotating too slowly.	Install fan wheel. Check that fan is properly seated on drive shaft.
Red LED Sensor lit. Three dashes flashing in center of display for measured values. Continuous audible alarm.	Defective air temperature sensor. Incubator temperature below 5 °C. Temperature sensor disconnected.	Call DrägerService. Wait for incubator to warm up fully. Connect temperature sensor.
Err flashing in display for measured values Red LED Inop. in main module lit. Continuous audible alarm.	Defect in air temperature control module.	Call DrägerService.

Skin Temperature Control Module



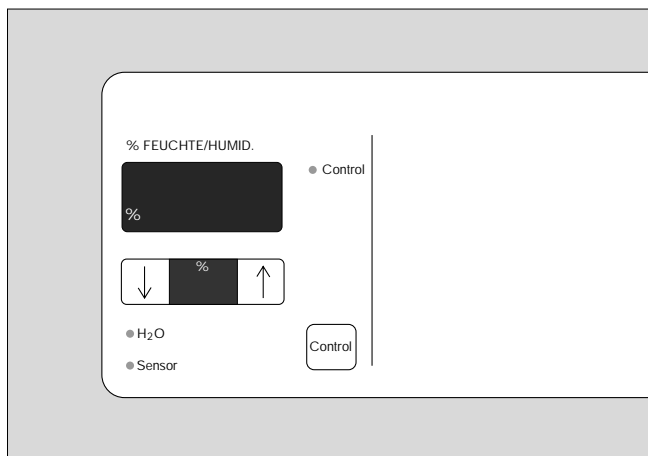
Problem/Message	Likely Causes	Remedy
Red LED ± 1.0 °C flashing. Display of measured value flashing. Intermittent audible alarm.	Skin temperature deviating from set value by more or equal than ± 1.0 °C.	Below set value: Check that sensor is properly attached to patient. Above set value: Measure core temperature of patient and inform physician responsible for patient immediately.
Red LED Sensor lit. Three dashes flashing in center of display for measured values. Intermittent audible alarm.	Skin temperature sensor not properly connected. Defective skin temperature sensor.	Check connection and correct if necessary. Replace sensor.
Err flashing in display for measured values. Red LED Inop. lit in main module. Continuous audible alarm.	Defect in skin temperature control module while in operation.	Switch to air temperature control. Call DrägerService.
Err continuously lit in display of measured values.	Defect in skin temperature control module (while not in operation); skin temperature control switched off.	Other modules continue to operate properly. Call DrägerService.
Reference temperature of 36 °C is outside tolerance of ± 0.1 °C when  key is pressed.	Temperature measuring module not operating accurately.	Call DrägerService.

Oxygen Control Module



Problem/Message	Likely Causes	Remedy
Red LED ±5 Vol.% flashes. Measured value flashes. Intermittent alarm.	Oxygen concentration deviates from set value by more than $\pm 5\%$.	Below set value: Close openings on hood. Check oxygen hose to medical pipeline. Above set value: Switch off other O ₂ sources. If O ₂ concentration does not drop, disconnect from O ₂ system and continue to operate with manual control. Call DrägerService.
Red LED and intermittent audible alarm, two flashing dashes in the display for measured value.	Sensor not connected Sensor outside the hood Sensor module improperly connected	Connect sensor Swing sensor back. Check connections and correct, if necessary.
Red LED and intermittent audible alarm, CAL flashing.	Calibration was not started within one minute.	Calibrate sensors.
Yellow LED and intermittent audible alarm. CAL flashing.	Requesting recalibration of O ₂ sensors during continuous operation every 24 hours.	Calibrate sensors.
Flashing Err in display, red LED Inop. in central module and continuous audible alarm.	Fault in active module.	Switch off module. Call DrägerService.
Flashing O₂ value in display. Red LED Inop. in central module and continuous audible alarm.	O ₂ increase after O ₂ control is switched off.	Disconnect from all O ₂ sources, switch incubator off and on again. If fault persists, call DrägerService.
Err is flashing in the display.	Fault in module, when module is not in use.	All other modules are not influenced, call DrägerService.

Humidity Control Module



Problem/Message	Likely Causes	Remedy
Red LED H ₂ O flashing. Display of set value flashing. Intermittent audible alarm.	Water supply depleted.	Refill water container.
Err display flashing alternately with set value. Continuous audible alarm.	Defective humidifier while humidity control active.	Switch off humidifier. Set value to 0 . All other modules continue to operate properly. Call DrägerService.
Err flashing in display.	Defective humidifier while humidity control not active.	All other modules continue to operate properly. Call DrägerService.
Red LED sensor flashes.	Sensor defective or not connected.	Check connection and correct, otherwise switch off module.

Height Adjustment

Problem/Message	Likely Causes	Remedy
When pushing on the pedals the incubator does not go up or down.	Thermo protector engaged. Incubator has reached end position.	Let the motor cool down for one hour. Maximum or minimum position reached.

Inspection and Maintenance

WARNING !

To avoid any risk of infection, clean and disinfect incubator and accessories before any maintenance according to established hospital procedures - this applies also when returning units or parts for repair.

WARNING !

Always disconnect supply before servicing.

WARNING !

Never operate the incubator if it has suffered physical damage or does not seem to operate properly. In this case always refer servicing to properly trained and factory authorized service personnel.

Replacement of Parts

Air filter	replace after two months. Discard with regular waste.
Hand port seals	replace, when the material becomes brittle or sticky or when a proper seal with the port can no longer be obtained.
U-grommets	replace, when the material becomes brittle or sticky or when segments are missing.
Fan motor	lubricate with 10 drops of 51524-HLP 32 oil every six months by trained service personnel.
NiCd battery for power failure alarm	to be replaced once a year by factory trained technician

WARNING !

Treatment of batteries

- Do not throw into fire! risk of explosion
- Do not force open! cells contain corrosive acid

CAUTION !

For disposal of batteries, follow all local, state, and federal legislation with respect to environmental protection.

Preventive Maintenance Intervals

WARNING !

Preventive Maintenance work on the Incubator 8000 IC may be performed by trained and factory authorized staff only.

Inspection and Preventive Maintenance every six (6) months

Regular safety checks every six (6) months

Check also for preventative maintenance intervals for accessories, such as bed-scales, oxygen flowmeters, external oxygen analyzers, and other equipment or accessories you may use together with the Incubator 8000 IC.

For information on Biomed training to become certified on the Dräger Incubator 8000 IC call your closest Dräger Sales Representative or Dräger Inc.

Technical Data

Ambient conditions:

During operation	
Temperature	20 °C to 30 °C
Atmospheric pressure	900 to 1100 hPa
Rel. humidity	15 to 95 %
During storage	
Temperature	0 °C to 70 °C
Atmospheric pressure	900 to 1100 hPa
Rel. humidity	15 to 95 %

Operating data:

Electrical power source	115 V AC 50/60 Hz
Heat output	
Air	400 W
Water heater	100 W
Current consumption	9.4 A
Height Adjustment	560 W

Performance data

Warm up time	35 minutes from 20 °C to 31 °C (with or without humidification)
Temperature drop (at room temperature of 25 °C and temperature inside incubator of 36 °C)	
Two hand ports opened	<1 °C
Front door (top) opened	5 °C
Humidification	Evaporation of distilled or demineralized water
Air speed over the bed	<8 cm/second
Fresh air flow	39 L/min (60 Hz)
CO ₂ elimination, according to IEC 601-2-19/105.1 maximum CO ₂ concentration inside incubator	0.2 %
Bed tilting	on right or left side continuously adjustable up to 10 tilting angle.
Range of measured values	
Air temperature	10 °C to 50 °C
Skin temperature	33 °C to 38 °C
Oxygen concentration	0 to 99 Volume %
Humidity	0 to 99 % relative Humidity

Technical Data

Range of set values	
Air temperature	28 °C to 39 °C
Skin temperature	35 °C to 37 °C
Humidity	35 to 85 % relative Humidity
Measuring principles of sensors	
Air temperature sensor	NTC x 2
Skin temperature sensor	NTC x 2
Noise level inside the canopy	56 dB (A) at 60 Hz;
Alarm Sound Level, outside	according to IEC 601-2-19 more than 65 dB(A) at 3 m
Alarm Sound Level, inside	according to IEC 601-2-19 less than 80 dB(A) over mattress
Air filter	Particle class P 2, pursuant DIN 3181, 98 % efficiency

Skin temperature control

Sensor	Use only sensors approved for use with Dräger incubators
Calibration tolerances	
Sensor probe, reusable (disc-shaped)	±0.1 °C
Sensor probe, single use (miniature)	±0.1 °C
Temperature Variability	according to IEC 601-2-19 better than ±0.5 °C
Temperature Uniformity	according to IEC 601-2-19, range of ±0.8 °C

Classification

The incubator complies with DIN- VDE 0750, Part 1,
EN 60601-1, IEC 601-1 and IEC 601-2-19, CSA 22.2-125



Type B

Manufacturer's certification of electromagnetic compatibility

The 8000 IC Incubator is certified to be free of radio
interference emissions pursuant guideline EN 55014:1987/A2
1990, and it complies with guideline 89/336/EEC regarding
immunity from electromagnetic interference.

Dimensions (height x width x depth)

52 - 60 x 38 x 27 inches, (1285 - 1480 x 960 x 680 mm)

Weight

197 lbs, (89kg)

Ordering Information

Name and description	Order No.	Name and description	Order No.
Basic unit		Spare parts	
Incubator 8000 IC, USA with control of air temperature, humidity, skin temperature control with ThermoMonitoring, double cupboards and automatic water feed system	2M 21 973	Air filter	84 02 926
		Mattress	2M 20 907
		Set of hand port doors, right and left	2M 19 550
		Seal for left hand port	2M 19 469
		Seal for right hand port	2M 19 470
Accessories		Silicone U-grommet	2M 19 511
Swivel cabinet with organizer trays	2M 20 638	Trough grommet for support bracket	2M 19 595
Automatic Water Feed System, cpl.	2M 21 846	O-ring on support bracket	R 18 074
Disposeable water feed container	2M 22 130		
		Skin temperature sensor, reusable	
Upright Mounting Support	2M 21 380	Skin temperature sensor, including adhesive rings (pack of 250)	82 00 757
Hinged Swivel Shelf	2M 21 186	Adhesive rings, pack of 250	68 50 021
Infusion Support	2M 21 514		
		Skin temperature sensor, single use	
Instrument tray (20 x 30 cm), rail mount maximum load 2 kg	M 24 678	Skin temperature sensor, pack of 20	2M 20 737
		Adapter cable	2M 20 736
RS mounting plate, maximum load 25 kg side rail mount	2M 19 460		
		Oil for ventilator motor	M 78 39
BabyLink-Incubator interface kit with ThermoView Software	82 90 607	Dust cover	2M 68 35
Medi-Cable, required for connecting interfaced equipment	83 06 488		
O2 Tank Holder (E-size tank)	D-ETH96	For mounting bracket to attache other equipment, such as puls oxymeters, call Drager Inc. at 703-817-0100.	
O2 high pressure hose, 3 m (10 ft)			
Phototherapy PT 4000	2M 21 700		
Floorstand for PT 4000	2M 21 190		
Phototherapy Spotlight, Integrated Model	04 41 100		
Phototherapy Spotlight, Floorstand Model	04 41 112		
Phototherapy Spotlight, Wall Mount Model	04 41 142		

This Operating Instruction Manual
applies only to **Incubator 8000 IC**
with serial no.:

Without entry of a serial-no. by
Dräger, these Operating Instruc-
tions provide general information
only and are not intended for use
with a specific device!

Dräger Medizintechnik GmbH

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